ROMANIAN ENERGY REGULATORY AUTHORITY

NATIONAL REPORT 2021

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FOREWORD

"During 2021, ANRE aimed to continuously improve the regulatory activity, by making maximum use of available human resources, in order to develop a modern, unitary and simple regulatory framework that can be applied for all market participants."

In the legislative context ensured by means of the implementation of the national and European legislative provisions, throughout 2021, ANRE aimed to continuously improve the regulatory activity. To achieve this target, ANRE has made the most of available human resources, in order to develop a modern, unitary and simple regulatory framework that can be applied for all market participants, from small household consumers to large corporations active in the electricity, heating and natural gas sectors.

Following the new provisions of the primary legislation adopted at the end of 2020 and the beginning of 2021, with a major impact on the activity of the regulator, ANRE had the obligation to elaborate the related regulatory framework in a short time period. I can say, without exaggerating, that it was a real tour de force for us.

With attention paid to strengthening market mechanisms and, following the liberalization of the electricity market on January 1st, 2021, the Authority looked closely at both cost-bearing and fair consumer prices, whilst aiming to provide the necessary support to encourage large-scale investment projects targeted at contributing to the diversification of Romania's energy sources, for the benefit of the economy and final consumers.

In the context of the process of liberalization of the electricity market, as of January 1st, 2021, in order to ensure better information remitted to the final electricity customer by the suppliers of last resort, as well as to simplify the conclusion of electricity supply contracts under the conditions imposed by the pandemic context recorded at that time, and for the process to be carried out for the benefit of the final customer, we have approved the *Order for the approval of the terms of supply of electricity by the suppliers of last resort*, as of January 1st, 2021. Moreover, by amending and supplementing the *Regulation on the supply of electricity to final consumers*, the contracting and establishment of electricity consumption for final consumers has been simplified.

With a view to increasing the number of appointed Suppliers of Last Resort (SoLR) of natural gas, which also have a significant market share, since the supply of gas under last resort conditions implies an immediate operational and financial capability that enables suppliers to take over, in exceptional circumstances, the customer portfolios of suppliers that,

for various reasons, can no longer continue their activity, the Authority has made amendments and additions to the *Regulation on the last resort supply of natural gas*.

In addition to regulatory administrative enactments, informative materials were also developed to support final consumers in making the best decisions regarding the conclusion of contracts for the supply of electricity and natural gas.

On January 1st, 2021, ANRE came to the support of household consumers in the energy market, by establishing a "call-centre" dedicated to the process of changing the electricity and natural gas supplier, where experts from ANRE provided advice to all consumers who have encountered difficulties in the process of concluding a new contract in the competitive market.

Also in 2021, by means of the approval of the new *Performance standard for the electricity/natural gas supply activity*, the system for classifying electricity and natural gas suppliers according to the degree of compliance with quality indicators was introduced and required automatic payment of compensation to all affected consumers, and the *Performance standard for electricity distribution service* required electricity distribution operators to pay financial compensation to consumers affected by unplanned outages.

By amending the *Methodologies for setting regulated tariffs for electricity and gas transmission and distribution services*, the aim was to stimulate investments in network infrastructure, for which non-reimbursable European funds can be attracted.

In order to allow access to natural gas and electricity to an increased number of users, a package of normative acts on the connection of household, non-household and prosumer consumers to the public interest electricity grids and to the natural gas distribution system was adopted. Transparent and non-discriminatory rules have been introduced for the connection of new electricity generation installations by means of the *Procedure for determining the capacity available in the electricity grids for the connection of new electricity generation installations*, due to the need to determine the capacity available in the electricity grids, by establishing uniform and non-discriminatory principles and criteria for all electricity grid operators.

Amending the *Procedures for substantiation and criteria for approval of investment plans of electricity and natural gas distribution operators* will ensure the ability to meet reasonable long-term connection requests, without damaging in any way the carrying out of investment works in electricity grids and natural gas distribution systems, with the aim of improving operational safety, the performance of the distribution service and the continuity of the supply of electricity and natural gas to users.

In order to reduce the impact of imbalance costs on the final price of electricity, a number of amendments and additions to the regulations in force regarding the duration of long-term electricity supply contracts have been approved. The European Commission's recommendation to reduce the delivery time provided for in long-term electricity supply contracts has thus been transposed into the regulatory framework of the electricity market.

This measure will have a significant impact on the electricity market, due to the possibility of negotiating supply contracts on over-the-counter markets and, as regards competitiveness, the change will increase competition, the possibility of contracting flexible products adapted to production and consumption profiles, as well as reducing balancing costs for energy market participants.

Also in 2021, the Authority implemented the change/integration of all software in the "core business" area, within a major digitalization project entitled *"Implementation of an*

integrated software system at ANRE level". It enables citizens and economic operators to interact with our institution more easily, by means of web applications, without having to physically come to the headquarters or send documents to us by post.

Within the same project, ANRE increased the digital skills of its employees and continued the digitalization and standardization of data collection, a complex process managed by the Authority, which collects data from over 1200 sources. In addition to this, with the help of technology, the internal processes have been streamlined and simplified.

In order to meet the European regulations on reducing the maximum duration of the technical process of switching a supplier to 24 hours until 2026, ANRE continued, in 2021, the implementation of the project *"Development of the institutional capacity of the National Energy Regulatory Authority to simplify the process of changing the electricity and natural gas supplier"*, financed from non-reimbursable funds, within the Administrative Capacity Operational Program 2014-2020. This project will create a unique IT platform at national level, dedicated to the process of switching the electricity and natural gas supplier, which will contribute to the development of a dynamic and competitive energy market.

Following the end of the liberalization process of energy markets, in 2021, ANRE intensified the monitoring, investigation and control activity, with the aim of identifying and managing anti-competitive practices that may affect the safety of national energy systems, in order to ensure the proper functioning of the energy market in conditions of efficiency and transparency, with notable benefits to final consumers, by ensuring security in the supply of energy at fair prices. A series of control actions have been launched in relation to electricity suppliers, in order to verify how suppliers are putting into practice the regulatory provisions regarding the electricity market liberalization process. For this activity, an intense collaboration with the National Consumer Protection Authority (ANPC) took place.

Last but not least, I would like to mention that ANRE continues to focus on the creation of a modern energy sector, in line with the principles of the European Union, in order to: ensure secure, affordable energy supply, develop a largely renewable energy sector, and develop a fully integrated, interconnected and digitalized market. In this respect, in 2021, ANRE elaborated and issued 142 orders (published in the Official Journal of Romania Part I), 2,401 decisions and 43 notifications, in accordance with the obligations deriving from the primary and European legislation.

Dumitru Chiriță
President

ABBREVIATIONS

CBA - Cost benefit analysis
ACER - European Union Agency for the Cooperation of Energy Regulators
ARRF - Deviation in frequency restoration adjustment
ATC - Available transmission capacity
BRM - Romanian Commodities Exchange
CCM SEE - Capacity calculation methodology applied to South Eastern Europe
CPC - Competitive market component
CPT - Grid losses
CORE - Capacity calculation region
DCC - Regulation (EU) 2016/1388 establishing a Network Code on consumer connection
ENTSO-E - European Network of Transmission System Operators in the field of electricity
ENTSO-G - European Network of Transmission System Operators in the field of natural gas
ER - Regulation (EU) 2017/2196 establishing a network code on electricity emergency and restoration
SoLR - Supplier of last resort
GLDPM - Methodology for the provision of data on production and consumption
GD - Government Decision
HHI - Herfindahl-Hirschman index
HVDC- 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
IT - High voltage
JT - Low voltage
KORR - organizational requirements, roles and responsibilities in relation to data exchange pursuant to Article 40.6 of the Network Code on system operation (proposal of all transmission system operators on key organizational requirements, roles and responsibilities)
MGCCC - power plants consisting of new generation modules connected to public interest electrical grids, by means of high voltage direct current systems
MT - Medium voltage
DSO - Distribution system operator
NO - Network operator
TSO - Transmission system operator
GEO - Government Emergency Ordinance
PRE - Balancing-responsible party
PC-OTC - centralized market for bilateral contracts with continuous double negotiation
PCCB - centralized market for bilateral contracts
PCCB-NC - centralized market for continuous negotiated bilateral contracts
PCR - price coupling of regions
BM - balancing market
IM - intraday market
DAM - day-ahead market

RFP - frequency-power adjustment
RRF - frequency restoration reserve
RI - replacement reserve
RFG - Regulation (EU) 2016/631 establishing a network code for generation installations
RCC SEE - ”South East Europe” capacity calculation region
RSF - frequency stabilization reserve
REL - limited capacity energy tanks
SEN - national electricity system
SNT - national gas transmission system
SO GL - Regulation (EU) 2017/1485 establishing a guideline on the operation of the electricity transmission system
UD - dispatch unit
SGU - significant grid users

I. THE STATUS AND ROLE OF ANRE, STRATEGIC OBJECTIVES

Mission and responsibilities

The regulatory powers of ANRE are expressly identified by means of the primary legislation applicable to the electricity, natural gas, energy efficiency and thermal energy sector, namely Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, Law no. 220/2008 for establishing the system of promoting the production of energy from renewable energy sources, republished, with subsequent amendments and completions, Law on community services of public utilities no. 51/2006, republished, with subsequent amendments and completions, and Law on public service of thermal energy supply no. 325/2006, with subsequent amendments.

The annual activity report for 2021 is conducted by the National Energy Regulatory Authority - ANRE in order to fulfil the reporting obligations contained in the provisions of Article 1, paragraph (4) of Law no. 160/2012 for the approval of GEO no. 33/2007 on the organization and functioning of ANRE.

ANRE is an autonomous administrative authority, with legal personality, under parliamentary control, financed entirely from own revenues, independent in terms of decision-making, organizational and functional matters, having as object of activity the elaboration, approval and monitoring of the application of the set of mandatory regulations at national level necessary for the functioning of the electricity, thermal and natural gas sector and market, in order to ensure efficiency, competition, transparency and consumer protection, as well as to implement and monitor energy efficiency measures at national level.

ANRE develops the regulatory system in order to meet both the requirements imposed by the liberalization of energy markets, the achievement of the internal market, and the requirements for ensuring a predictable regulatory framework and a stable investment climate, in order to ensure continuity in terms of safe and affordable energy supply.

The main tasks conferred by means of primary legislation are as follows**:**

- issuing, amendment or withdrawal of authorizations and licenses;
- issuing of technical and commercial regulations, ensuring access and connection to electricity and natural gas networks;
- issuing and approval of pricing and tariff methodologies, approval of prices and tariffs;
- ensuring the monitoring of the functioning of the electricity and natural gas markets;
- promoting the production of electricity from renewable energy sources and high-efficiency cogeneration;
- creating the legal framework for the development and implementation of the national energy efficiency policy, in order to achieve the national objective related to increasing energy efficiency.

ANRE collaborates with the regulatory authorities of the States within the region, including by means of cooperation agreements, with the Agency for the Cooperation of Energy Regulators - ACER and the European Commission, to harmonize the regulatory framework for the development of the regional market, the rules on cross-border exchanges of electricity and natural gas, those relating to the management and allocation of interconnection capacities, without prejudice to their subsequent tasks and powers.

In fulfilling its tasks and competencies, ANRE contributes to the achievement of the following general objectives:

- promoting a secure, competitive and environmentally sustainable European internal market for electricity and natural gas and its effective opening up for the benefit of all consumers and suppliers in the European Union, as well as ensuring adequate conditions for the efficient and safe operation of the electricity and gas networks, taking into account long-term objectives;
- developing competitive and well-functioning regional markets integrated into the European internal electricity market;
- removing restrictions on cross-border trade in relation to electricity and natural gas, in order to meet demand and improve the integration of the national market in the European internal market for electricity and natural gas;
- developing a safe, reliable and efficient consumer-oriented national energy system, enabling the promotion of energy efficiency and the integration of renewable energy sources, as well as distributed production in both the transmission network and the distribution network;
- facilitating grid access for new production capacities, in particular by removing obstacles related to access for new participants in the electricity and natural gas market or the use of renewable energy sources;
- ensuring incentives for power grid/natural gas systems operators and other power grid/natural gas systems users, in order to increase the efficiency of the operation of energy transmission and distribution systems and to accelerate market integration;
- consumer protection, by ensuring an efficient competitive market, by supporting vulnerable consumers, by imposing quality standards for public services in the electricity and natural gas sector, by facilitating the access of final customers to their consumption data, necessary for the process of switching the electricity or natural gas supplier, as well as by providing the most accurate and complete information to consumers;
- ensuring that economic operators in the energy and natural gas sector comply with their relevant transparency obligations.

II. REGULATORY ACTIVITY - THE ENERGY MARKET

1. REGULATORY ACTIVITY

1.1 ELECTRIC POWER

1.1.1 PREAMBLE

ANRE's activity is carried out on the basis of the Law on electricity and natural gas no. 123/2012 with subsequent amendments and completions and of Law no. 160/2012 for the approval of GEO no. 33/2007 on the organization and functioning of ANRE, with subsequent amendments and completions, while respecting the provisions of the European legislation related to the field of energy.

The Romanian electricity and natural gas markets operate in accordance with the European regulations on the internal energy market, which establish requirements related to the development of renewable energy, environmental policy, integration of balancing markets, as well as the interconnection of energy systems, namely:

- **Directive 944/2019** of the European Parliament and of the Council on common rules for the internal market for electricity and amending Directive 2012/27/EU;
- **Regulation 943/2019** of the European Parliament and of the Council on the internal market for electricity;
- **Directive 2009/73/EC** of the European Parliament and of the Council concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC.

As regards the electricity market, Regulation (EU) 2019/943 of the European Parliament and of the Council of June 5th, 2019 on the internal market for electricity (*Regulation*), which, under Community law, is directly applicable, as provided for in the Treaty on European Union and by the Constitution of Romania, article 3, provides the following:

"Member states, regulatory authorities, transmission system operators, distribution system operators, market operators and delegated operators shall ensure that electricity markets operate in accordance with the following principles:

(a) prices are established on the basis of supply and demand;

(b) market rules encourage free price formation and avoid actions that prevent price formation on the basis of supply and demand;

(k) all producers are directly or indirectly responsible for the sale of the electricity they subsequently produce;

(n) market rules allow the entry and exit of electricity generating undertakings and energy storage undertakings and electricity supply undertakings on the basis of the assessment carried out by said undertakings in what concerns the economic and financial viability of their operations;

(p) market rules facilitate trade of products throughout the Union and regulatory changes take into account effects both in the short and long term, in what concerns forward markets and products."

At the same time, Directive 2019/944 of the European Parliament and of the Council on common rules for the internal market for electricity and amending Directive 2012/27/EU stipulates, under Article 5, that:

"*(1) Suppliers shall be free to determine the price at which they supply electricity to customers. Member States shall take appropriate actions to ensure effective competition between suppliers.*

(2) Member States shall ensure the protection of energy poor and vulnerable household customers pursuant to Articles 28 and 29 by social policy or by other means than public interventions in the price setting for the supply of electricity."

Thus, according to European legislation, the participants in the electricity market are free to set the price of electricity.

As regards the primary legislation developed at national level, the provisions at European level regarding interventions in terms of price formation were taken over in the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, hereinafter referred to as *Law no. 123/2012,* by the Government's adoption of GEO no. 143/2021, published in the Official Journal of Romania on December 31st, 2021.

The supply of electricity on the competitive retail market is carried out under the electricity supply contract, concluded between the supplier and the final customer, at the supply price and under the commercial terms negotiated between them or established by means of standard offers, in compliance with the legislation in force.

Only the tariffs for services, namely the tariffs for the transmission service, the tariff for the system service and the tariff for the distribution service, remained regulated by ANRE.

In order to enable the final customer to compare several offers and to have access to as much information as possible, in order to reach an informed decision at the time of conclusion of a contract for the supply of electricity under competitive conditions, ANRE has made available, on its website, an interactive web application entitled "*Comparator oferte-tip de furnizare a energiei electrice*" *(Standard electricity supply offers comparison tool).*

This tool, which is independent and non-commercial, can be accessed using the link:*https://www.anre.ro/ro/info-consumatori/comparator-de-tarife* or by downloading the "*ANRE*" app, free of charge, available on mobile devices.

In order to meet the European regulations on reducing the maximum duration of the technical process of switching suppliers to 24 hours until 2026, ANRE implements the SMIS 129990/705 project financed from non-reimbursable funds within the 2014-2020 Administrative Capacity Operational Program, consisting in the development of a unique IT platform at national level, dedicated to the process of switching electricity and natural gas suppliers, which will contribute to the development of a dynamic and competitive energy market.

Adopting these measures in order to simplify administrative procedures for all consumers and operators involved in the process of switching electricity and natural gas suppliers by implementing an intuitive and innovative IT solution will lead to the achievement of interoperability of the data needed to switch suppliers and to ensure fulfilment of new European requirements to reduce the maximum duration of the technical process of switching suppliers.

During 2021, the regulations related to the wholesale electricity market concerned measures to facilitate electricity transactions and to implement the provisions of the European balancing market codes. Thus, the duration of the delivery period from the long-term electricity supply contracts referred to in Article 3 o) of Regulation 943/2019, which may be concluded on OTC markets, has been reduced from one year to one month.

Another approved Regulation aimed at replacing the calculation currently in place for determining the PRE (balancing responsible party) imbalance for unintended exchanges and the payment obligations/collection rights of this PRE used in the imbalance price formula with a new method of calculation, where values for unintended exchanges are received by the TSO (transmission system operator) from the dedicated European IT platform for the calculation of unintended exchanges between all TSOs in the Continental Europe synchronous area.

The Regulation has also been updated to comply with the provisions on how to determine the SEN imbalance, by adding the aggregate amount corresponding to the power increase that has actually been delivered by the production capacity/storage facility in the trial period, to explain the time limit representing the estimation of the contribution of the SEN to the stabilization of frequency in the synchronous area at quarter-hour level, in order to avoid confusion in implementation, to deal with situations where the neutrality component can also record positive values due to the amount of penalties for PRE imbalances, and, to comply with the provisions of the applicable legislation in force in what concerns the deadlines for transmission by the transmission system operator of preliminary and final data on the settlement of unintended exchanges.

In order to implement the provisions of Article 18 of Regulation (EU) 2017/2195 and Article 6 of Regulation (EU) 2019/943, the *Regulation on terms and conditions for balancing service providers and frequency stabilization reserve providers* and the *Regulation on terms and conditions for balancing responsible parties* have been approved.

The Regulation includes rules defining the role of balancing service providers and the role of balancing-responsible parties in the new internal balancing market model at European level. In addition, the rules on balancing terms and conditions set out the principles and roles based on which balancing activities will be carried out, and ensure an adequate level of market competition between market participants, including aggregators, as well. ANRE Order no. 128/2021 also approved the rules for suspending and restoring market activities and the settlement rules applicable in situations where the national electricity system is in a state of emergency, collapse and restoration. The Regulation includes the conditions, rules and procedures for suspending and restoring market activities and for settling imbalances, balancing capacity and balancing energy applied by the transmission system operator (TSO) and other stakeholders.

In what concerns regulations on the connection of users to public interest networks, the amendments brought to the applicable legislative framework by means of *Law no. 155/2020 amending and supplementing the Law on electricity and natural gas no. 123/2012 and amending and supplementing other normative acts* and of *Law no. 290/2020 on the approval of Government Emergency Ordinance no. 106/2020 for the amendment and completion of the Law on electricity and natural gas no. 123/2012* were implemented.

In the field of technical regulations, the Technical standard regarding the establishment of requirements for the execution of live works in electrical installations - code NTE 010/11/01, approved by means of ANRE Order no. 23/2011, was updated. Compared to the old version of the Standard, improvements were introduced consisting of:

- provisions relating to the execution of live works (LST) in medium voltage electrical installations, given the expansive tendency of this category of works;
- establishment of the values of the DV vicinity distance for all voltage levels of electrical installations and redefinition of the DL distance that delimits the live works' area, in accordance with the provisions of the applicable standards;

- correlation of the conditions for the authorization of electricians, in terms of occupational safety and health, with those concerning live works and those regulated by the *Regulation for the authorization of electricians, project auditors, technical execution responsibles, as well as of quality and extrajudicial technical experts in the field of electrical installations*, approved by means of ANRE Order no.11/2013;
- details of the necessary facilities for the execution of live works for all voltage levels of electrical installations and for each type of ANRE certification corresponding to the live works;
- specification of the organizational forms on the basis of which live works can be executed at low voltage, depending on the type of economic operator to which the live works formation belongs;
- separation of technical and organizational measures necessary for the execution of live works, both at medium/high voltage and low voltage, in order to clarify the responsibilities of the work manager in relation to the live works.

The *System services technical qualification procedure* was approved. It envisages establishing and detailing the qualification process, as well as the technical conditions to be met by reserve-providing units (RPUs) and reserve-providing groups (RPGs) held by balancing service providers. In the procedure, the tasks of the applicant and CNTEE Transelectrica SA, the operator carrying out the qualification process, are specified.

Changes to the regulatory framework have also been made in what concerns the performance of transmission and distribution services. *The performance standard for electricity transmission services and system services*, approved by means of ANRE Order no. 12/2016 has been updated to reassess and redefine some of the general performance indicators and/or statistics, so that these indicators contribute to the characterization of the performance of the activity of the transmission system operator and respond to the need based on which they were established. A new *Performance standard for the electricity distribution service* has been approved, with provisions that aim to generate an increase in terms of performance for users. Compared to the previous version of the standard, short outages were included in the category of outages that are monitored and for which distribution operators are obliged to compensate in the case of exceeding the maximum number set by the standard. These outages are the ones that mainly affect low voltage power grids, can cause equipment depreciation and create discomfort for customers of the service. At the same time, starting with 01.01.2022, the positive deviation allowed for 95% of the actual values, averaged over a 10-minute period, of the low voltage supply voltage, during any one-week period, was reduced from +10% to +5% of the nominal voltage value. The standard includes an implementation calendar in what concerns the monitoring of the continuity of users' power supply and the technical quality of electricity based on quality analysers mounted at transformer stations and substations.

The decisions approved throughout 2021 focused, in particular, on the implementation of the European Regulations, and had the following targets:

1. Establishment of additional frequency stabilization reserve (RSF) properties;
2. Approval of the common capacity calculation methodology for the day-ahead and intraday time frame;
3. Establishment of regional coordination centres for the system operation region of Central Europe;
4. Approval of the list of significant grid users (SGUs), the list of significant high priority grid users (SHPGU) and the terms and conditions for their disconnection and reconnection;
5. Approval of Procedures of last resort for the SEE capacity calculation region;
6. Change of day-ahead capacity calculation methodology in the CORE capacity calculation region;

7. Determining how to transfer net positions resulting from the allocation of cross-border capacity between the supply area of Romania and other supply areas in the single coupling of the day-ahead electricity markets;
8. Establishing the method of cross-border clearing and settlement for the supply area of Romania;
9. Approval of the principles applicable to the energy exchange between the supply area of Romania and the supply areas of Hungary and Bulgaria;
10. Approval of the annual and monthly allocation rules for coordinated capacity allocation at the border between the supply areas of CNTEE Transelectrica SA and EMS AD Beograd;
11. Approval of the Regional specific Annex for CCR Core to the harmonized allocation rules for long-term transmission rights;
12. Granting the derogation for the transmission system operator from the use of the European platform for the imbalance clearing process;
13. Amendment of the decision granting the derogation for the transmission system operator from the use of the European platform for the imbalance clearing process.

The operational procedure for the *operation of the day-ahead electricity market* developed by the electricity market operator and the operational procedure for the *establishment of financial guarantees in framework contracts for the provision of the electricity transmission service and the system service*, developed by the transmission system operator, were also pre-approved.

1.1.2 REGULATIONS DRAFTED THROUGHOUT 2021

ORDERS

1. ANRE Order no. 5 of 20.01.2021 amending and supplementing the Order of the National Energy Regulatory Authority no. 171/2020for the approval of the Conditions for the supply of electricity by the suppliers of last resort and for amending and completing the framework contract for the supply of electricity to household customers of suppliers of last resort, approved by means of Order of the National Energy Regulatory Authority no. 88/2015

Considering the impact of the liberalization of the electricity market on household customers, the need to ensure adequate information by suppliers of last resort, as well as to ensure the conditions necessary for the conclusion of electricity supply contracts in compliance with the conditions imposed in the context of the COVID 19 pandemic and for the process to be carried out for the benefit of the final customer, the measure to extend until March 31st, 2021 the period during which electricity supply contracts can be concluded was foreseen, so that household customers benefit from the price of the competitive offer.

2. ANRE Order no. 6 of 20.01.2021 for the amendment of the Regulation for the appointment of last resort electricity suppliers, approved by means of Order of the National Energy Regulatory Authority no. 188/2020

The order aims to harmonize the provisions of the regulations in force, in what concerns the categories of customers for which the supply of electricity is provided by the suppliers of last resort.

3. ANRE Order no. 15 of 10.03.2021 for the approval of the Procedure regarding the connection to power grids of public interest of consumption and production sites

belonging to prosumers who have installations for the production of electricity from renewable sources with installed power of no more than 100 kW per consumption site

The Regulation was developed for the implementation of the provisions of Art. X of *Law no. 155/2020 amending and supplementing the Law on electricity and natural gas no. 123/2012 and amending and supplementing other normative acts* regarding the increase of the maximum threshold of installed power for consumption and production sites by prosumers, from 27 kW to 100 kW per consumption site.

At the same time, the order was developed in order to harmonize with the new legislative provisions of Art. I, item 37, Art. 51, par. (3 ^ 2), (3 ^ 3) and (3 ^ 4) of *Law no. 155/2020 amending and supplementing the Law on electricity and natural gas no. 123/2012 and amending and supplementing other normative acts*, in what concerns the obligation of the distribution system operator to finance and carry out the design and execution of connection facilities for household customers and for non-household final customers that possess consumption sites that connect through connection facilities up to 2.500 meters in length. Given that prosumers who own renewable electricity generation plants with installed power of no more than 100 kW per consumption site fall within the two categories of customers, the provisions of the procedure have been correlated with the new legislative provisions, as well as with the provisions of the *Procedure regarding the connection to public interest electrical grids of consumption sites belonging to non-household final customers through connection installations with lengths up to 2.500 meters and household customers*, approved by means of ANRE Order no. 17/2021. The impact of the amendments and completions in the draft order is a positive one, considering the elimination from the responsibility of the prosumer, mainly household customers, in relation to financing and performing the connection installation.

The procedure has been developed to support prosumers, by means of a simplified set of common documents to be requested by all distribution system operators concerning technical, energy data and technical documentation for both the power generation facilities and power storage facilities, in the case of prosumers considering the inclusion of a storage system in the installation currently under use. Thus, provisions have been amended in a manner that is in line with the provisions of *ANRE Order no. 160/2020 amending and supplementing the Regulation on the connection of users to electrical grids of public interest*, approved by means of ANRE Order no. 59/2013 and those of its subsequent documents (the framework content of the connection technical notifications and of the connection certificates).

The applicability of the provisions of this normative act in what concerns prosumer household customers who submitted applications for connection to distribution operators after 19.12.2020, and in what concerns non-household final customers who possess consumption sites that connect through connection installations with lengths of up to 2.500 meters, who submitted applications for connection to distribution system operators after 30.07.2020, was taken into account.

4. ANRE Order no. 16 of 10.03.2021 amending and supplementing the Regulation on the connection of users to public interest electrical grids, approved by means of Order of the National Energy Regulatory Authority no. 59/2013

The amendment and completion of the Regulation had as main purpose the harmonization with the provisions of Article I, item 1, Article 51, paragraph (35) of *Law no. 290/2020 on the approval of Government Emergency Ordinance no. 106/2020 for the amendment and completion of the Law on electricity and natural gas no. 123/2012, as well as*

for the amendment of certain normative acts regarding the obligations of the distribution operator related to the connection to the electricity distribution network of the consumption sites belonging to household customers. At the same time, the correlation with the normative acts subsequent to the Regulation, applicable for the connection of consumption sites belonging to household customers users, was taken into account.

Provisions were introduced in the document regarding the recalculation and regularization of the costs of the works for consolidating the power grid, in order to create the technical conditions necessary for the connection of several production/consumption and production sites. Also, the possibility for the user to choose to pay all or part of the costs incurred by the network operator for carrying out the respective consolidation work included in the operator's development plan, was stipulated in the provisions, if the network operator is not able to perform the work by the date requested by the user for the power-up of the installation. The purpose of these changes was to unlock investment projects of producers from renewable sources, with a positive impact on the energy market.

5. ANRE Order no. 17 of 10.03.2021 for the approval of the Procedure regarding the connection to electrical grids of public interest of consumption sites belonging to non-household final customer users through connection installations with lengths of up to 2.500 meters and household customers

The procedure was developed on the basis of the provisions of Art. 51 par. (3^2) – (3^5) of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions. According to the provisions of the law and implicitly of the normative act, the transferor distribution operator has the obligation to finance and carry out the connection facilities of the specified categories of users. The time limit for connection, including acceptance and commissioning of the connection installation, shall amass no more than 90 days from the date of obtaining the permit/authorization for the connection installation.

The non-household final customer, whose consumption site is supplied by a connection installation carried out in accordance with the provisions of the procedure, has the obligation to use the site of consumption and to maintain its provided use for a period of 5 years from the date of commissioning of the connection installation. In case of non-compliance with the above mentioned provisions, the non-household customer user is obliged to return to the transferor distribution operator the amount related to the design and execution works of the connection installation incurred by the operator; the method of refund and the calculation of the respective amounts are detailed in the procedure and included in the connection contract. At the same time, by means of the normative act, the possibility of household and non-household customers, for which the site of consumption is powered through a user installation up to 2500 meters long, to conclude the contract for the design and execution of the direct connection installation with a certified economic operator of their choice was granted; the transferor distribution operator shall subsequently reimburse the design and execution costs to the user, within a maximum of 5 years from the date of commissioning of the connection installation, based on an equal annual instalments plan; the amount reimbursed shall be at most equal to the value stipulated in the connection technical notice. The procedure shall also include the framework format of the connection contract used for the connection of said consumption sites, differentiated according to the manner in which the user chooses to carry out the design and execution of the connection installation.

6. ANRE Order no. 25 of 31.03.2021 amending and supplementing the Order of the National Energy Regulatory Authority no. 90/2015 on the approval of the framework contracts for the electricity distribution service and for the amendment of the framework contract for the sale and purchase of electricity produced by prosumers who

own power plants for the production of electricity from renewable sources with installed power of no more than 100 kW per consumption site, approved by means of Order of the National Energy Regulatory Authority no. 227/2018

The elaboration of this order aimed to streamline the process of concluding / amending the electricity distribution contract regarding the inclusion / exclusion of consumption sites from the annexes to the distribution contract concluded between the supplier and the distribution operator, as well as updating its provisions, in accordance with the new regulations issued throughout 2020.

7. ANRE Order no. 26 of 31.03.2021 on the amendment of the Order of the National Energy Regulatory Authority no. 65/2020 on the amendment and completion of certain orders of the President of the National Energy Regulatory Authority

Following the approval of the Order of the President of the National Energy Regulatory Authority no. 65/2020, the European Commission was notified by means of Letter no. 30868/08.04.2020 that the duration of the delivery period of a supply contract has been established to be more than 1 year.

Throughout January 2021, the National Energy Regulatory Authority received from the European Commission (EC) Letter ENER/A5/CB/hr (2021)s-533549 dated January 26th, 2021, registered with ANRE under no. 8881/27.01.2021, in which the former considers that the provision of Article 3 o) of Regulation 943/2019 does not impose a limitation on the duration of the long-term period of at least one year. The EC thus encourages the conclusion of transactions for long-term supply contracts with a delivery period of less than one year and does not specify a minimum duration.

The purpose of the draft order submitted for approval is to transpose into the regulatory framework of the electricity market the EC recommendation to shorten the duration of the delivery period provided for in the contracts for the supply of electricity referred to in Article 3 o) of Regulation 943/2019.

8. ANRE Order no. 27 of 31.03.2021 on amending and supplementing certain orders of the National Energy Regulatory Authority

In 2020, the National Energy Regulatory Authority approved by means of Order no. 213/2020, with subsequent amendments and additions, the *Regulation for the calculation and settlement of imbalances of the parties responsible for balancing – sole imbalance price*. This Regulation aimed at implementing the single-price imbalance settlement method for balance responsible parties (PRE) with an application date correlated with the implementation date of the 15-minute settlement interval, namely February 1st, 2021.

In order to have the most balanced position in the balancing market, market participants need pre-balancing market averages to trade the imbalances they may experience and to this end, this draft order has been developed, which provides for the amendment of all the regulations establishing centralized markets for term electricity trading, so as to allow the implementation of the 15-minute settlement interval.

9. ANRE Order no. 33 of 26.05.2021 amending and supplementing Order of the National Energy Regulatory Authority no. 213/2020 for the approval of the Regulation on calculation and settlement of imbalances of the parties responsible for balancing – sole imbalance price and repealing the Order of the National Energy Regulatory Authority no. 59/2015 for the approval of the Rules on the takeover of electricity delivered to the electricity grids, produced during the period of production capacity tests

The order replaced the calculation method for determining the PRE-SN imbalance and the payment obligations/collection rights of this PRE (balancing party) used in the imbalance price formula, with a new calculation mode, in which the values for unintended exchanges are received by the TSO (transmission system operator) from the dedicated European IT platform for the calculation of unintended exchanges between all TSOs in the Continental Europe synchronous area. This proposal was drafted following the notification received from CNTEE Transelectrica SA that the platform for calculating unintended exchanges between all TSOs in the Continental Europe synchronous area – FSKAR will be operational as of June 1st, 2021. To this end, it was necessary to amend several articles of the *Regulation for calculating and settling the imbalances of the parties responsible for balancing – sole imbalance price* approved by means of ANRE Order no. 213/2020, with subsequent amendments and completions, including by eliminating the manner in which the unplanned exchanges between the Romanian TSOs and neighbouring TSOs were considered, namely by eliminating, at the level of the TSO, of a PRE that metered these exchanges, action which, with the functioning of the European FSKAR platform, will no longer be necessary.

Furthermore, considering that the entry into operation of the European balancing IT platforms will take place in 2022 and in order to prevent the calculation method obtained by means of the implementation of the provisions of EU Regulation 2195/2017 from leading to distortions in the settlement of PRE imbalances, with subsequent financial implications for TSOs, CNTEE Transelectrica SA asked ANRE to consider the opportunity to complete Order 213/2020 with a provision on the temporary suspension of the application of the provisions of paragraphs (2) and (3) of Article 141 of the Regulation, until the commissioning of the respective platforms takes place. The analysis carried out jointly by ANRE with CNTEE Transelectrica SA and OPCOM SA showed that such a measure will have beneficial effects for PRE and TSOs.

In addition, a new payment method was established for electricity produced during the trial period by an electricity production capacity/storage unit, alongside the repealing of ANRE Order no. 59/2013 for the approval of the *Rules on the takeover of electricity delivered to the electricity grids, produced during the period of production capacity tests*.

10. ANRE Order no. 34 of 26.05.2021 for the approval of the Technical norm regarding the establishment of requirements for the execution of live works in electrical installations, code NTE 010/20/01

The normative act represents an update of the Technical norm regarding the setting of requirements for the execution of live works in electrical installations - NTE code 010/11/01, approved by means of Order of the National Energy Regulatory Authority no. 23/2011(Norm).

Compared to the old version of the Norm, improvements were introduced, consisting of:

- provisions relating to the execution of live works (LST) in medium voltage electrical installations, given the expansive tendency of this category of works;
- establishment of the values of the DV vicinity distance for all voltage levels of electrical installations;
- redefinition of the DL distance that delimits the live works area, in accordance with the provisions of SR EN 50110-1:2013 and SR EN 61472:2013;
- correlation of the conditions for the authorization of electricians in terms of occupational safety and health with those concerning live works and those regulated by the Regulation for the authorization of electricians, project auditors, technical execution responsibles, as well as of quality and extrajudicial technical experts in the

field of electrical installations, approved by means of ANRE Order no.11/2013, with subsequent amendments;

- details on the equipment, devices, tools and work equipment with means of protection necessary for the execution of live works for all voltage levels of electrical installations;
- specification of the organizational forms on the basis of which live works can be executed at low voltage, depending on the type of economic operator to which the live works formation belongs;
- introduction of Annex no. 1, which includes the equipment, devices, tools and work equipment with means of protection necessary for the execution of live works for each type of ANRE certification corresponding to live works;
- separation of technical and organizational measures necessary for the execution of live works, both at medium/high voltage and low voltage, in order to clarify the responsibilities of the head responsible for the live works.

11. ANRE Order no. 36 of 09.06.2021 for the amendment and completion of the Performance standard for the electricity transmission service and system service, approved by means of Order of the National Energy Regulatory Authority no. 12/2016

The performance standard has been updated to reassess and re-define some of the general performance indicators and/or statistics, so that these indicators contribute to characterizing the performance of the transmission system operator's activity and respond to the need for which they have been established.

Also, the deadlines for the issuance by the transmission and system operator of connection certificates and offers for connection contracts were correlated with the deadlines stipulated in *ANRE Order no. 160/2020 amending and supplementing the Regulation on connection of users to public interest electrical grids, approved by means of ANRE Order no. 59/2013*, with subsequent amendments and completions. At the same time, the aim was to correlate certain provisions with those of the performance standard for the electricity distribution service.

12. ANRE Order no. 37 of 09.06.2021 repealing the Regulation on the organization and functioning of the Day-ahead electricity market, in compliance with the price coupling mechanism of the markets and amending certain normative acts regulating the Day-ahead electricity market, approved by means of Order of the National Energy Regulatory Authority no. 82/2014

Coupling Day-ahead markets at European level is a multi-step process, based on the use of common solutions approved at European level. The appointed operator of the Romanian electricity market, OPCOM, and the transmission and system operator, Transelectrica, participated in the development of the interim project of coupling markets based on the net NTC transfer capacity, launched on June 17th, 2021. This is a transitional step in the process of single flow-based market coupling and involves the day-ahead market functioning according to the rules set out in the above documents, with the help of the cooperation of market operators and TSOs in the vast majority of European countries.

Considering that the main elements of the functioning of day-ahead coupled markets have been laid down in documents approved at European level by regulatory authorities or ACER, it has been considered that it is no longer justified to draw up and approve a day-ahead market regulation with national application, which strictly follows the rules laid down in the documents with European application, as there may be inconsistencies or even contradictions, if the amendment of any of the rules with European applicability would not

take place simultaneously as the change of the provisions of the national regulation. As a result, it was proposed to repeal the *Regulation on the organization and functioning of the Day-ahead electricity market, in compliance with the mechanism of price coupling of the markets* approved by means of ANRE Order no. 82/2014, with subsequent amendments and completions, and the organization and operation rules are to be included in the OPCOM procedures, and ANRE will approve the compliance of the operational procedure on the functioning of the day-ahead electricity market, developed by OPCOM, with the provisions contained in the European documents.

13. ANRE Order no. 45 of 15.06.2021 for the amendment of the Regulation on the connection of users to electrical grids of public interest, approved by means of Order of the National Energy Regulatory Authority no. 59/2013

The provisions of the document support the economic operators and the final customers by simplifying the connection activity of users to the public interest electrical grids, in terms of the documents required to settle connection requests. In order to facilitate access to the network and remove bureaucratic barriers by decoupling the connection authorization process from the construction authorization process, the zonal urban plans (PUZ) and urban detail plans (PUD) have been removed from the documentation required to be submitted by the user together with the connection request.

14. ANRE Order no. 46 of 15.06.2021 for the approval of the Performance standard for the electricity distribution service

The standard establishes performance indicators for the electricity distribution service, distribution system operators having the obligation, according to the law, to provide the service under the conditions of continuity and technical and commercial quality established by the normative act. Compared to the previous version of the standard, short outages were included in the category of outages that are monitored and for which distribution system operators are obliged to compensate beneficiaries, when exceeding the maximum number set by the standard. These outages are those that mainly affect low voltage power grids, can cause equipment depreciation and also cause discomfort to customers of the service.

At the same time, starting with 01.01.2022, the positive deviation allowed for 95% of the actual values, averaged over a 10-minute period, of the low voltage supply voltage, during any one-week period, was reduced from +10% to +5% of the nominal voltage value.

The aforementioned reduction was correlated with the maximum permissible voltage value for low voltage electrical and electronic equipment.

The standard includes an implementation calendar in what concerns the monitoring of the continuity of users' power supply and the technical quality of electricity, based on quality analysers mounted at transformer stations and substations. The installation of the respective equipment takes place gradually, the full monitoring of the electrical stations was established by the end of 2026, and that of transformation stations by the beginning of 2028. The implementation program on monitoring the continuity and quality of electricity with quality analysers mounted in the transformation stations is correlated with the provisions of the calendar for the implementation of the smart electricity metering systems at national level, approved by ANRE.

15. ANRE Order no. 82 of 30.06.2021 amending and supplementing the Regulation for the supply of electricity to final customers, approved by means of Order of the National Energy Regulatory Authority no. 235/2019, repealing the Order of the President of the National Energy Regulatory Authority no. 130/2015 for the approval of the procedure

for the supply of electricity to consumption sites belonging to suppliers, producers or network system operators, other than grid losses of the power grids

In the context of the elimination of regulated tariffs for household customers, on January 1st, 2021, the order aimed to simplify the contracting process, so as to ensure the best conditions for switching providers.

At the same time, the order amended other existing regulations, establishing a timetable for implementation regarding the manner in which the distribution service is billed by the distribution operator and the final customers' consumption is billed by suppliers during periods when the meter is not read. Also, the changes in the contracting process have the role of clarifying certain situations concerning the type of contract concluded in the case of home owners' associations or concerning the termination of the right to use the residential space.

16. ANRE Order no. 84 of 30.06.2021 amending and supplementing the Regulation on the organization of maintenance activity approved by means of Order of the National Energy Regulatory Authority no. 96/2017

The implemented amendments and completions ensure a unitary application of the provisions of the *Regulation on the organization of maintenance activity*, approved by means of ANRE Order no. 96/2017 (Regulation), by taking over tables no. 3g), 3h), 6e), 6f) and 6g) from the *Methodology for the preparation of the annual report by the holders of licenses in the electricity and heat sector*, approved by means of ANRE Order no. 32/2016, with subsequent amendments and completions.

It was also envisaged to correlate the new provisions with those of the *Regulation on the connection of users to public interest electrical grids*, approved by means of ANRE Order no. 59/2013, with subsequent amendments and completions, and those of the Procedure regarding the substantiation and criteria for approval of the investment plans of the transmission system operators and of the electricity distribution operators, approved by means of ANRE Order no. 204/2019, with subsequent amendments and completions.

The normative act has brought forth the following improvements:

- completion of Article 37 (2) of the Regulation with a maximum period of 15 days, established from the date provided for the submission of financial statements, in what concerns the submission to ANRE of the report regarding the implementation of the annual maintenance program;
- introduction of two new annexes containing tables on the implementation of the annual maintenance program by the transmission system operator and by the transferor distribution system operators;
- introduction of the specification according to which the Regulation also applies in what concerns ensuring, by network operators, of the maintenance of installations taken into service according to the legal provisions in force, in order to correlate with the provisions of the Regulation on connection of users to electrical grids of public interest, approved by means of ANRE Order no. 59/2013, with subsequent amendments and completions;
- clarification of the fact that the provisions of the Regulation also apply to maintenance work carried out following special weather conditions, by correlation with the provisions of the Procedure on the substantiation and criteria for the approval of the investment plans of the transmission system operators and electricity distribution operators, approved by means of ANRE Order no. 204/2019, with subsequent amendments and completions;

- introduction of information regarding the expected values for preventive maintenance and the percentage of the latter's implementation, by means of filling in Table 4 of the Regulation, so as to ensure correlation with the requirements of Article 37 (3) of the Regulation regarding the degree of achievement of preventive maintenance works.

17. ANRE Order no. 85 of 30.06.2021 amending and supplementing the Order of the National Energy Regulatory Authority no. 74/2014 for the approval of the framework content of the connection technical permits

This normative act achieved the correlation with the provisions of the *Procedure regarding the connection to public interest electrical grids of consumption sites belonging to non-household final customers users through connection installations with lengths of up to 2.500 meters and household customers*, approved by means of ANRE Order no. 17/2021. The main change consists in separately highlighting the components of the connection tariff borne by the distribution system operator and the user, respectively, thus clarifying the responsibilities regarding the financing of the works for the achievement of connection facilities.

Considering the obligation imposed by the provisions of the *Performance standard for the electricity transmission service and for the system service*, approved by means of ANRE Order no. 12/2016, with subsequent amendments and completions, and those of the *Performance standard for the electricity distribution service*, approved by means of ANRE Order no. 11/2016, with subsequent amendments, regarding the reporting by network operators to ANRE of the number of complaints registered/unresolved regarding connection, in the reporting of general performance indicators related to commercial quality of transmission and distribution services, a similar obligation has been removed from the framework content of the connection technical permits.

18. ANRE Order no. 89 of 14.07.2021 on the approval of the Procedure for technical qualification of system services

The procedure envisages establishing and detailing the qualification process, as well as the technical conditions to be met by reserve-providing units (RPUs) and reserve-providing groups (RPGs) owned by balancing service providers. In the procedure, the tasks of the applicant and CNTEE Transelectrica SA, the operator carrying out the qualification process, are specified.

19. ANRE Order no. 91 of 28.07.2021 for the amendment of the Regulation for the supply of electricity to final customers, approved by means of Order of the National Energy Regulatory Authority no. 235/2019

The order aims to clarify how the consumer agreement is concluded by the supplier with the final customer, as well as the cases in which the consumer agreement is changed by the distribution system operator.

At the same time, the order clarified the determination of the data in the consumer agreement, the right of the distribution system operator to request from the supplier the amendment of data in the consumer agreement due to a significant change in the final customer's consumption profile, and, at the same time, the possibility of amending the consumption agreement, at the initiative of the electricity supplier, is eliminated.

20. ANRE Order no. 96 of 01.09.2021 amending and supplementing the Regulation on calculation and settlement of imbalances of the parties responsible for balancing - Sole imbalance price, approved by means of Order of the National Energy Regulatory Authority no. 213/2020

The Regulation has been updated to comply with how to determine the SEN imbalance by adding the aggregate amount corresponding to the power increase that has actually been delivered by the production capacity/storage facility in the trial period, for the purpose of explaining the time-limit representing the estimation of the contribution of the SEN to the stabilization of frequency in the synchronous area at quarter-hour level, in order to avoid confusion in implementation, for dealing with cases where the neutrality component can also record positive values due to the amount of penalties for PRE imbalances, and to ensure compliance with the provisions of the applicable legislation in force regarding the deadlines for transmission by CNTEE Transelectrica SA of preliminary and final data on the settlement of unintended exchanges.

21. ANRE Order no. 98 of 22.09.2021 for the approval of the Procedure on correction of measurement data in relation to the demarcation point

In accordance with the provisions of the regulations in force, the settlement of electricity transactions is carried out at the point of demarcation between the electricity grids in the operation of the network operators and the installations under use related to the consumption / production / consumption and production sites. If the metering point of a consumption/generation/consumption and generation site does not coincide with the point of demarcation of its installations under use with installations in operation of network operators, the electricity transited through the demarcation point shall be determined by correcting the metered electricity, in accordance with the provisions of the procedure.

The document revises the *Procedure regarding the correction of measurement data in relation to the demarcation point approved by means of ANRE Order no. 75/2015* in order to supplement it with provisions regarding the calculation of the electricity / active power corrections in the situation of the duration of the settlement interval of 15 minutes. Existing provisions on the calculation of corrections for metering points equipped with metering groups capable of providing meter data at 60 minutes and for those equipped with local reading metering groups shall continue to be maintained (intervals of one month or more). The provisions shall apply to the calculation of active/reactive electricity losses and active power losses, namely of the corrections of these quantities, if the loss element is a transformer, an overhead power line or an underground power line, as the case may be.

22. Order no. 127 of 08.12.2021 approving the Regulation on terms and conditions for balancing service providers and frequency stabilization reserve providers and the Regulation on terms and conditions for balancing parties, amending and repealing certain orders of the National Energy Regulatory Authority

This normative act implemented the provisions of Article 18 of Regulation (EU) 2017/2195 and the provisions of Article 6 of Regulation (EU) 2019/943. The Regulation includes rules defining the role of balancing service providers and the role of balancing-responsible parties in the new internal balancing market model at European level. In addition, the rules on balancing terms and conditions set out the principles and roles based on which balancing activities will be carried out and ensure an adequate level of market competition between market participants, including aggregators, as well.

23. ANRE Order no. 128 of 08.12.2021 for the approval of the rules for suspending and restoring market activities and the applicable settlement rules

The Regulation shall include the conditions, rules and procedures for suspending and restoring market activities and for settling imbalances, balancing capacity and balancing energy applicable in situations where the national electricity system is in a state of emergency, collapse and restoration, applied by the transmission system operator (TSOs) and

other stakeholders. For the event in which the national electricity system is collapsing or restoring from collapse, the Regulation shall establish a settlement different from normal settlement as per the settlement rules in force for the calculation of imbalances, balancing capacity and balancing energy, that is, a settlement on the basis of a recovery price calculated as the arithmetic average of closing prices resulting from day-ahead coupling over a period of 30 days prior to the day on which the suspension of market activities and all production and consumption was ordered, measured by cancelling pre-suspension imbalances.

24. ANRE Order no. 130 of 15.12.2021 for the approval of the regulated income related to the regulated activity carried out by the electricity market operator

This order approves the regulated income of the electricity market operator, in accordance with the provisions of the Methodology for establishing the regulated income related to the regulated activity carried out by the electricity market operator, approved by means of ANRE Order no. 192/2019.

DECISIONS

1. ANRE Decision no. 153 of 03.02.2021 approving the document "Proposal for additional properties of the frequency stabilization reserve (RSF) for all transmission system operators in the Continental Europe synchronous area, in accordance with Article 154(2) of Commission Regulation (EU) 2017/1485 of August 2nd, 2017 laying down a guideline on the operation of the electricity transmission system"

2. ANRE Decision no. 154 of 03.02.2021 for the approval of the document "Proposal of the transmission system operators in the SEE capacity calculation region regarding the common methodology for capacity calculation for the day-ahead and intraday market time frame, in accordance with the provisions of Article 21 of Commission Regulation (EU) 2015/1222 of July 24th, 2015 laying down guidelines on capacity allocation and congestion management"

In order to achieve the unified coupling of day-ahead and intraday electricity markets, the calculation of capacity for day-ahead and intraday market timeframes shall be coordinated by transmission system operators (TSOs) at least at regional level, ensuring the reliability of capacity calculation and making optimal capacity available on the market.

In the "South East Europe" capacity calculation region (CCR SEE) the coordinated net transmission capacity method is applied, which is based on the principle of ex-ante assessment and definition of maximum energy exchange between adjacent supply areas. The normative act provides for the methodologies for calculating the input data used for capacity calculation, rules for avoiding discrimination between internal and cross-zonal exchanges, mathematical description of the method for calculating the day-ahead and intraday capacities, procedures of last resort where the initial capacity calculation did not lead to any results, the methodology for validating cross-area capacity. Each TSO shall validate and be entitled to correct the cross-area capacity relevant to the boundaries of the former's area for reasons pertaining to operational safety.

3. ANRE Decision no. 325 of 03.03.2021 approving the document "Setting up of regional coordination centres for the Central European system operation region, in accordance with Article 35 of Regulation (EU) 2019/943 of the European Parliament and of the Council of June 5th, 2019 on the internal market for electricity"

4. ANRE Decision no. 595 of 31.03.2021 for the approval of the documents "List of significant grid users (SGUs) and measures in accordance with Article 4 paragraph (2) letter c) of Regulation (EU) 2017/2196 establishing a network code relating to electricity

emergency and restoration" and "List of significant high priority grid users (SHPGUs) and the terms and conditions for their disconnection and re-connection, in accordance with Article 4(2)(d) of Regulation (EU) 2017/2196 establishing a network code on electricity emergency and restoration"

5. ANRE Decision no. 749 of 14.04.2021 approving the document *"Last resort procedures for the SEE capacity calculation region, in accordance with Article 44 of Commission Regulation (EU) 2015/1222 of July 24th, 2015 establishing guidelines on capacity allocation and congestion management"*

These procedures are set out in Article 44 of the CACM Regulation and aim to ensure an efficient, transparent and non-discriminatory allocation of capacity, in situations where single day-ahead coupling cannot produce results.

After the approval of the first version of the procedures of last resort to CCR SEE by the regulatory authorities of CCR SEE (hereinafter "CCR SEE") on April 18th, 2018, the CCR SEE TSOs (hereinafter "SEE TSOs") have developed an amended methodology to introduce JAO as an allocation platform that will conduct shadow auctions for the RO-BG border supply area and shall include in the proposal an Annex containing Shadow auction rules version 1.5, instead of just mentioning a reference to the version published on the single allocation platform website.

The last resort procedure for each interconnection is based on explicit day-ahead tenders, shadow auctions. The specifications for a shadow auction on a specific interconnection for the contract day will be published in advance by the allocation platform, in accordance with the shadow allocation rules. The allocation platform that will perform shadow auctions for RO-BG and BG-GR interconnections is JAO.

6. ANRE Decision no. 1155 of 09.06.2021 approving the document "First Amendment to day-ahead capacity calculation methodology of CORE capacity calculation region, in accordance with Article 20 of Commission Regulation (EU) 2015/1222 of July 24th, 2015 establishing guidelines on capacity allocation and congestion management."

Following the issuance of ACER Decision no. 02/2019 approving the *capacity calculation methodology in the Core capacity calculation region*, taking into account further developments regarding the implementation of the day-ahead capacity calculation methodology provisions, transmission system operators (TSOs) in the Core capacity calculation region (CCR Core) deemed it necessary to introduce amendments to this methodology.

The amendments made by the CCR Core TSOs concern the assessment of the reliability margin, the extended inclusion of long-term allocation, the integration of third countries, the validation of flow-based parameters, last resort procedures, data publication and implementation timetable.

The provisions of the legislative act contribute to the general objectives set out in *Commission Regulation (EU) 2015/1222 of July 24th, 2015 establishing guidelines on capacity allocation and congestion management*, namely to coordinate and harmonize capacity calculation in day-ahead cross-area markets of the CCR Core, for the benefit of all electricity market participants and final electricity consumers.

7. ANRE Decision no. 1156 of 09.06.2021 on the determination of the transfer method regarding the net positions resulting from the allocation of cross-border capacities between the supply area Romania and other supply areas, in the single coupling of day-ahead electricity markets

The European regulatory framework for electricity provides for harmonized rules to be applied to single day-ahead market coupling, in order to ensure a clear legal framework for an efficient and modern capacity allocation and congestion management system, to facilitate electricity trade across the Union. On the basis of Regulation (EC) no. 714/2009, restructured by Regulation (EC) no. 943/2019, Commission Regulation (EU) 2015/1222 of July 24th, 2015 laying down guidelines on capacity allocation and congestion management, which contains specific rules on how day-ahead markets are organized at regional and European level, was approved.

In 2018, CN Transelectrica SA was appointed to act as a transfer agent in the intraday coupling of electricity markets. By means of the joint letter of Transelectrica and OPCOM, the two operators requested the issuance of a decision on the assignment of the transfer agent function for Romania to Transelectrica, within the framework of the single coupling of the day-ahead electricity markets, a project launched on June 17th, 2021.

The purpose of the Decision is to lay down the methods for the transfer in the single day-ahead coupling of electricity markets, as provided for in Article 68 (6) of Commission Regulation (EU) 2015/1222 of July 24th, 2015 laying down guidelines on capacity allocation and congestion management.

8. ANRE Decision no. 1202 of 15.06.2021 on the cessation of the applicability of Annex no. 1 to the Decision of the National Energy Regulatory Authority no. 1790/2015

This decision envisages the cessation of the applicability of *Annex no. 1* to *ANRE President Decision no. 1790 of 14.08.2015 on the approval of the framework format of metering data for the settlement of electricity consumption* as of July 1st, 2021.

By means of ANRE Order no. 25/2021, the framework contract for the provision of the electricity distribution service concluded between the transferor distribution operator and the supplier was approved, which entered into force on July 1st, 2021 and which took over in *Annex 3* the format in which the measurement data are to be transmitted by distribution system operators, in order to settle electricity consumption with final customers.

9. ANRE Decision no. 1236 of 23.06.2021 on granting the derogation for the transmission system operator from the use of the European platform for the imbalance compensation process pursuant to Article 22 (5) of Commission Regulation (EU) 2017/2195 of November 23rd, 2017 establishing a guideline on electricity system balancing

10. ANRE Decision no. 1810 of 22.09.2021 approving the document Cross-border clearing and settlement arrangements for the supply area of Romania in accordance with Article 77 (2) of Commission Regulation (EU) 2015/1222 of July 24th, 2015 establishing a guideline on capacity allocation and congestion management

The document sets out the principles applicable to energy exchanges between the supply area of Romania and the supply areas of Hungary and Bulgaria, in accordance with Article 68 of Regulation (EU) 2015/1222 of the European Commission of July 24th, 2015 laying down guidelines on capacity allocation and congestion management, principles that apply to both the daily and intraday time intervals.

According to these principles, transfer agents in each supply area undertake to configure and maintain the necessary technical and operational infrastructure and procedures for the performance of bilateral clearing and settlement, in terms of physical settlement, financial settlement, billing and counterparty risk management.

11. ANRE Decision no. 1846 of 30.09.2021 on amending the Decision of the National Energy Regulatory Authority no. 1236 of 23.06.2021 on granting the derogation for the

transmission system operator from the use of the European platform for the imbalance compensation process according to Article 22 (5) of Regulation (EU) 2017/2195 of the European Parliament and of the Commission of November 23rd, 2017 on establishing guidelines related to electricity system balancing.

12. ANRE Decision no. 1921 of 13.10.2021 on the approval of the document "Annual and monthly allocation rules for coordinated capacity allocation at the border between the supply areas of C.N.T.E.E. Transelectrica SA and EMS AD Beograd", of the document "Rules for the daily auction for the allocation of trans-area capacities at the border between the supply areas of EMS AD Belgrade ("EMS") and C.N.T.E.E. Transelectrica S.A. ("Transelectrica") and the document "Intraday allocation rules for coordinated allocation of cross-area capacity at the border between the supply zones of C.N.T.E.E. Transelectrica SA and EMS AD Beograd"

According to Article 34 (2) of Regulation (EU) no. 2019/943 *"Transmission system operators shall promote operational arrangements in order to ensure the optimum management of the network and shall promote the development of energy exchanges, the coordinated allocation of cross-border capacity through non-discriminatory market-based solutions, paying due attention to the specific merits of implicit auctions for short-term allocations, and the integration of balancing and reserve power mechanisms."*

The rules for the allocation of interconnection capacity envisage the organization of transparent auction procedures for electricity transmission capacities available on the interconnection lines between the control areas of EMS and Transelectrica, so that these capacities are fully accessible to market participants, in a non-discriminatory manner.

13. ANRE Decision no. 2260 of 15.12.2021 for the approval of the document "Regional specific Annex for CCR Core to the harmonized allocation rules for long-term transmission rights, in accordance with Article 52 of Commission Regulation (EU) 2016/1719 of September 26th, 2016 laying down guidelines on the allocation of capacity on time"

After the approval of COMMISSION Regulation (EU) 2016/1719 of September 26th, 2016 establishing a guideline on capacity allocation in the long-term market, within 6 months of its entry into force, all TSOs were required to develop a proposal for harmonized rules for the allocation of long-term transmission rights (HAR). Article 52 (3) of the FCA allows regional/border specificities to be approved, which are subject to consultation on the ENTSO-E website at the same time as the HAR proposal.

Harmonized rules for the allocation of long-term transmission rights (HAR) were initially approved by means of ACER Decision no. 3/2017, then amended by means of ACER Decision no. 14/2019 and ACER Decision no. 15/2021. The document *"Regional specific Annex for CCR CORE to harmonized allocation rules for long-term transmission rights, in accordance with Article 52 of Commission Regulation (EU) 2016/1719 of September 26th, 2016 laying down guidelines for capacity allocation in the long-term market"* specifies the elements specific to the supply area borders of the CORE capacity calculation region, namely:

- boundaries of the CORE capacity calculation region for which thresholds apply in relation to compensation to participants in situations of reduction of transmission rights;
- restrictions of the optimization function for the Czech-Slovak-German/Luxembourg-Poland borders.

The specific regional Annex was initially approved by means of ANRE Decision no. 1505/2018 then ANRE Decision no. 563/2019 (first amendment) and ANRE Decision no. 1825/2019 (second amendment). Taking into account the provisions of Article 4 (12) of the FCA Regulation, all TSOs in the CORE region submitted a proposal to supplement the approved document following the introduction of a compensation threshold for the Hungary-Slovenia border, in accordance with Article 59 (2) of HAR.

NOTIFICATIONS

1. ANRE Notification no. 6 of 15.06.2021 on the Operational procedure on the functioning of the Day-ahead electricity market

Following the repeal of the *Regulation on the organization and functioning of the Day-ahead electricity market in compliance with the price coupling mechanism of the markets, approved by means of ANRE Order no. 82/2014*, with subsequent amendments and completions, the rules for the organization and functioning of the coupled day-ahead market were included in the operational procedure developed by OPCOM, ANRE endorsing its compliance with the provisions contained in the European documents.

The procedure describes the main characteristics of the day-ahead market: the general aspects related to the auction mechanism, the rules pertaining to market participation, the scope of threshold prices, the types of offers that can be traded, the significance of negative price trading, how tenders are matched based on the agreed default auction mechanism for the single European coupling solution (SDAC), how the coupling algorithm price is set - which is expressed in EURO, then converted to RON, using the same exchange rate used to convert offers from the national supply area when creating the offer register - the extent of the trading interval (time), electronic documents (settlement notes, physical notifications) made available to participants post-trade, operation in special situations (delay of the coupling process, partial/total decoupling regime), transparency approach, summary of the rights and obligations of market participants and market operators.

2. ANRE Notification no. 10 of 20.10.2021 on the Operational procedure on the functioning of the Day-ahead electricity market

The operational procedure on the Day-ahead market operation of electricity was initially approved by ANRE by means of Notification no. 6/2021. As it contained only references to the characteristics of the interim market coupling project on the basis of the net NTC transfer capacity launched on June 17th, 2021, OPCOM resubmitted a request for pre-approval, including the characteristics of the Romania-Bulgaria border coupling project (which took place on October 27th, 2021), namely:

- provision by each TSO responsible for the OPEED in the relevant supply area of agreed upon cross-border transmission capacity values;
- transmission of coupling results by the relevant OPEED to TSOs on the RO-BG border, in order to validate the flows resulting from the running of the coupling algorithm;
- organization of shadow auctions by means of the joint allocation office - JAO platform, in case the coupling process on the RO-BG border cannot be carried out.

3. ANRE Notification no. 22 of 24.11.2021 for the Operational procedure on the establishment of financial guarantees in framework contracts for the provision of the electricity transmission service and system service

1.2 NATURAL GAS

1.2.1 PREAMBLE

In accordance with the provisions of Law no. 123/2012 on electricity and natural gas, with subsequent amendments and completions, hereinafter referred to as the *Law*, on the competitive market of natural gas, commercial transactions are carried out under wholesale or retail conditions, and prices are formed on the basis of demand and supply, as a result of competitive mechanisms.

The wholesale market operates on the basis of:

- contracts concluded bilaterally between economic operators in the natural gas sector;
- transactions on centralized markets managed by the operators licensed by ANRE or by the balancing market operator, as the case may be;
- other types of transactions or contracts.

The retail market operates on the basis of:

- negotiated price contracts concluded between suppliers and final customers (households and non-households);
- standard offers.

In the application and enforcement of the provisions of Art. 177 par. 3^{15} - 3^{17} of the *Law*, throughout 2020, the regulatory authority has elaborated three normative acts, namely ANRE Order no. 79/2020 *on the obligation to supply natural gas on the centralized markets in Romania*, ANRE Order no. 143/2020 *on the obligation to supply natural gas on the centralized markets of natural gas producers whose annual production in the previous year exceeds 3.000.000 MWh*, with subsequent amendments and completions, as well as Order no. 144/2020 *on the obligation of natural gas market participants to supply products on centralized markets.* The last two issued orders replaced ANRE Order no. 79/2020, following legislative changes, and continued to produce effects in 2021, substantially contributing to the achievement of major objectives in the natural gas sector, mainly: ensuring continuity and security in the supply of natural gas to consumers, stimulating competition and liquidity on the market, as well as ensuring non-discriminatory access to natural gas sources for all wholesale market participants.

According to the data collected from the operators of the centralized gas markets active on the market (Romanian Commodities Exchange and OPCOM SA), the implementation of the tender obligation for all market participants (producers, suppliers, traders) has led to an unprecedented increase in the number of transactions, resulting in a significant increase in the quantities of gas traded in a transparent, anonymous and competitive manner, as shown in the following table:

Year	**2020**		**2021**	
Month/Indicator	**Quantity MWh**	**Transactions**	**Quantity MWh**	**Transactions**
January	1,687,682.49	2,280	4,377,105.90	4,152
February	1,408,276.23	2,402	4,199,522.11	3,659
March	9,246,305.98	2,500	4,662,372.04	5,467
April	3,492,233.07	2,605	3,182,170.37	6,018
May	1,364,260.70	2,185	3,128,721.68	5,037
June	3,586,528.56	2,520	4,475,956.59	4,432
July	3,763,733.33	2,587	3,719,011.90	3,927
August	4,148,931.56	2,933	4,022,759.08	4,392
September	5,027,213.31	3,233	4,793,419.99	4,593
October	3,883,267.88	3,363	4,416,785.83	5,668
November	4,191,253.72	3,547	4,835,149.25	5,005
December	6,182,106.09	3,970	5,003,621.03	5,831
Year total	**47,981,792.93**	**34,125**	**50,816,595.78**	**58,181**
Percentage increase			**5.9%**	**70.5 %**

According to the provisions of ANRE Order no. 105/2018 *for the approval of the General rules on centralized gas markets*, with subsequent amendments and completions, the centralized gas market in Romania comprises the following segments: the market for short-term standardized products, the market for medium- and long-term standardized products, and the market for medium- and long-term flexible products.

Another important step in the direction of boosting the sale of natural gas on the platforms dedicated to the trading of wholesale energy products managed by licensed operators related to the elaboration of ANRE Order no. 29/2021 *amending and supplementing the Order of the National Energy Regulatory Authority no. 105/2018 for the approval of the General rules on centralized natural gas markets*, a regulation that introduces, for the first time on the natural gas market, derivatives, as a complementary strategy to trading the underlying asset (natural gas).

This method of trading plays an important role in:

- risk management: this is a form of insurance against financial losses caused by adverse developments in terms of price or value of the underlying asset;
- identification of the right price**:** the *futures* market provides valuable clues regarding the price of the underlying asset on the market at a given time;
- increase of market liquidity and efficiency: contributes to increasing the volume traded in both the underlying asset and the associated derivative markets;
- market transparency: market statistics on concluded transactions (prices, volumes, open positions, etc.) are available to the general public, with operators of centralized markets having the obligation to publish them on a daily basis on official websites

The order introduces the option of trading standardized derivatives for the medium and long term (futures), which are characterized by a high degree of standardization, such as: symbol, underlying asset (natural gas), contract size (multiplier), quotation, quotation step, transaction settlement method (physical delivery), maturity date, etc.

As regards the supply of natural gas on the competitive retail market, this is carried out **on the basis of the contract for the supply of natural gas concluded between the supplier and the final customer, at the supply price and under the commercial terms negotiated between them or established by means of a standard offer, in compliance with the legislation in force.**

Since July 1st, 2020, the gas market has become completely liberalized, with the supply of natural gas being achieved on a competitive basis.

In the competitive market, suppliers have the right to develop standard offers, according to their own commercial strategy. In what concerns the price structure, only the tariffs related to the distribution and transmission of natural gas, included in the final price of natural gas supply, as the case may be, remained regulated by ANRE.

At the same time, each supplier sets the final gas supply price, according to two essential factors acting in opposite directions, namely:

- the commercial strategy at the level of the sale of natural gas to final customers and the target of drawing in new customers, which requires the supplier to set a final price more attractive for customers, as compared to that of the competition, and
- the cost of natural gas acquisition by the supplier, this cost being in close connection with the supplier's procurement strategy and the structure of natural gas sources through which the latter covers consumption needs for customers in the portfolio (i.e. the share of natural gas from domestic production versus import or storage, the share of SPOT market purchases over long-term contracts), which requires the supplier to set an average purchase price to include in the final price that is not below the purchase costs.

In order to enable the final customer to compare more offers and to have access to as much information as possible, ANRE has made available, on its website (www.anre.ro), the web application called "***Comparator oferte-tip de furnizare a gazelor naturale***" (***Natural gas supply offers comparison tool***), the purpose of which is to allow comparison of supply prices and conditions provided by natural gas suppliers, before choosing a particular supplier or standard offer, an application that can be accessed using the link http://www.anre.ro/ro/info-consumatori/comparator-oferte-tip-de-furnizare-a-gn, in which **natural gas suppliers are required to enter their own standard offers**.

Each final customer has the right to choose a supplier according to specific needs, in this regard it is necessary to analyse the offers available on the market, both in terms of supply price and other commercial conditions, as such, the customer is free to choose the offer that suits him/her best and to conclude with the chosen supplier a contract for the supply of natural gas in a competitive context.

The supply contract may be concluded with any of the natural gas suppliers, from those licensed by ANRE, who operate on the retail gas market, by means of one of the following ways:

- acceptance of a published standard offer by a supplier, which the customer deems more advantageous;
- requesting an offer from any supplier regarding the terms of trade and supply price, with a view to negotiating them, as the case may be;
- selection of the supplier by means of specific tendering/procurement procedures, if applicable.

ANRE, by means of ANRE Order no. 26/2019 on the approval of the Regulation on the supply of natural gas to final customers, established the regulatory framework for the activity of natural gas supply to the consumption sites of final customers, namely the

relations between suppliers and final customers of natural gas, including billing activities, as well as relations related with economic operators, holders of operating licenses, related to the performance of the contract for the supply of natural gas.

At the same time, considering that, according to the provisions of Article 145 paragraph (4) letter h) of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, the final customer has the right *"to change a supplier free of charge, in compliance with the contractual conditions / clauses, within 21 days from the date of the request, according to a procedure approved by ANRE, which mainly determines the stages of the switching process, the method of settling the payment obligations due by the final customer to the provider to be changed, the data that can be requested by the final customer or the new supplier in the process of switching suppliers, as well as the system operators who are obliged to provide them",* by means of ANRE Order no. 234/2019, the procedure regarding the change of the electricity and / natural gas supplier by the final customer was approved. The process of changing the natural gas supplier is simple and free of charge, it does not involve technical changes, regardless of the natural gas supplier chosen by the customer.

For situations in which a final customer does not benefit from the supply of natural gas from the current supplier, a supplier of last resort has the obligation to take over and temporarily supply natural gas at a last resort supply price **and on the basis of a framework contract for the supply of natural gas** under last resort conditions, the customer having the possibility, at any time, to change supplier, or to choose another supplier from the competitive market.

The supply of natural gas under last resort conditions is still an activity related to the regulated market, it is carried out under the conditions regulated by ANRE by means of Order no. 173/2020 on the approval of the **Regulation on the last resort supply of natural gas**, with subsequent amendments and completions**.**

Thus, in the context of the liberalization of the natural gas market, in order to protect household and non-household customers who, at some point in time, do not benefit from supply from any other source, by ensuring the supply of gas under last resort conditions, ANRE shall appoint a number of at least 5 Suppliers of Last Resort (SoLR), whose cumulative market share, calculated by equal weighting of the number of final customers and the amount of energy sold to them in the last 12 months, for which ANRE has data following the activity of monitoring the natural gas market, amasses at least 70%.

All natural gas suppliers who fulfil the eligibility criteria set out in the Regulation, have the possibility to carry out last resort gas supply activity. Thus, final customers are protected, by ensuring the supply of natural gas under last resort conditions, as per the provision stipulated in the *Regulation* and at the same time, competition between natural gas suppliers that are to be appointed as SoLR is promoted, and the fact that customers benefit from last resort supply of natural gas is ensured.

In the event of one of the situations in which the supplier can no longer provide customers with the supply of natural gas, the final customers in question are taken over by a SoLR determined by ANRE from the suppliers appointed as SoLR, based on the criterion of "lowest cost". On the ANRE website, in the section *Gaze Naturale/Informații de interes public/Furnizare de ultimă instanță gaze naturale/Clasamentul FUI în ordinea crescătoare a valorilor cumulate ale componentelor de preț pentru furnizarea gazelor naturale în regim de UI* (*Natural gas / Information of public interest / Last resort gas supply / Ranking of SoLR in ascending order of the cumulative values of the price components for the supply of natural*

gas under last resort conditions (https://www.anre.ro/ro/gaze-naturale/informatii-de-interes-public/furnizare-de-ultima-instanta/valori-componente-pret-fui), the *Ranking in ascending order of the cumulative values of the price components for last resort supply of natural gas* for each calendar month is included.

Information on last resort supply, such as, for example, the framework contract for the last resort supply of natural gas or the last resort prices applied by the supplier to taken over customers, established for each calendar month, can be viewed on the website of each appointed SoLR.

At the same time, all natural gas suppliers have the obligation to ensure for final customers the minimum level of quality of the supply activity established by means of the performance standard approved by ANRE, and, in case of failure, they have the obligation to pay compensation / penalty interest / compensation to the affected final customer, in the amount and under the conditions set out in this standard.

The natural gas supplier is also required to establish a communication system with final customers, which ensures taking over, registration, analysis, determination of measures and the settlement of complaints regarding the gas supply activity, in compliance with the rights and obligations of each party, in accordance with the framework procedure approved by means of ANRE Order no. 16/2015.

1.2.2. REGULATIONS DRAFTED THROUGHOUT 2021

ORDERS

1. Order no. 7 of 03.02.2021 approving the Regulation on the organized trading framework for standardized products on centralized natural gas markets managed by Bursa Română de Mărfuri S.A. (Romanian Commodities Exchange S.A.)

According to the provisions of Article 13 (1) of ANRE Order no. 105/2018, "*any amendments and/or additions to the Regulation regarding the organized trading framework on the centralized gas market shall be sent to ANRE for approval*".

The proposal for a Regulation submitted by the Romanian Commodity Exchange S.A. for approval, specifies the segments of the centralized natural gas market on which its operator is to carry out subsequent activities, the trading mechanisms used, describes the products intended for trading, the mechanisms for guaranteeing the concluded transactions, the framework for the organization and conduct of trading sessions, with and without the use of the services of a clearing house / counterparties, as well as the information published / updated, in accordance with the provisions of ANRE Order no. 105/2018, with subsequent amendments and completions.

The novelty aspects relate mainly to:

- introduction of a new segment in the centralized gas market - the market for flexible products in the medium and long term;
- introduction of the concept of a clearing member;
- introduction of the option to offer quantities of natural gas that can be denominated in foreign currencies (EURO/MWh and USD/MWh) for gas trading under EFET-type contracts defined by the initiating participant of the trading order or based on pre-agreed contracts.

2. Order no. 13 of 03.03.2021 amending and supplementing certain orders of the National Energy Regulatory Authority

In consideration of the provisions of Art. 130 par. (1), letters d) and q) of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, according to which the transmission system operator has the following obligations:
"*(d) ensure third parties' access to the transmission system, in accordance with specific regulations, under non-discriminatory conditions, within the limits of transmission capacity and in compliance with technological regimes […];*
q) ensure capacity allocation on interconnection pipelines in compliance with Regulation (EC) No. 715/2009", in accordance with the provisions of Article 16 of Regulation (EC) no. 715/2009, SNTGN Transgaz SA shall make available to market participants the maximum capacity at all relevant points, taking into account the integrity of the system and the efficient operation of the network.

Since 31.12.2020, SNTGN TRANSGAZ S.A. has completed phase II of the project to connect the T1 Isaccea 1 – Negru Vodă 1 transmission pipeline with the national transmission system (SNT). As of this date, SNTGN TRANSGAZ SA will be able to inject natural gas from the SNT into the T1 pipeline. At the same time, by finalizing this project, SNTGN TRANSGAZ S.A. will comply with the obligation assumed before the European Commission, namely to supply at the interconnection point Negru Vodă 1, on the exit direction, firm capacity of 2.2 billion m3/year, with access to PVT.

At the time of issuing the order, the mechanism for allocating and auctioning the supplied capacities differs in PI Negru Vodă 1, as compared to that practiced in PI Isaccea 1: in Negru Vodă 1, the allocation of capacity and the tender for supplied capacities are carried out in accordance with the provisions of Regulation (EU) 2017/459 (CAM NC), on the regional capacity booking platform (PRRC) operated by FGSZ KFT, the transmission operator from Hungary, and in PI Isaccea 1, the allocation and reservation of the available capacity is carried out in accordance with the provisions of the SNT Network Code and ANRE Order no. 158/2019 on the GMOIS platform operated by S.N.T.G.N. TRANSGAZ SA. ANRE Decision no. 155/03.02.2021 establishes the implementation of the provisions of Directive (EU) 2019/692, so that the rules of the European network codes, including the mechanisms for the allocation of capacity of CAM NC, apply both to the gas transmission pipelines connecting two or more EU Member States, as well as to gas transmission pipelines to and from third countries, in the case of Romania, to and from Ukraine and the Republic of Moldova.

On the basis of its legal prerogatives, ANRE amended the regulatory framework, in order to apply the same capacity allocation methodology in relation to S.N.T.G.N. TRANSGAZ S.A. at the interconnection points related to the Isaccea 1 - Negru Vodă 1 pipeline.

3. Order no. 18 of 10.03.2021 approving the Regulation on connection to the natural gas distribution system

The order aims to align the secondary legislation developed and approved by ANRE in accordance with the amendments and additions to Law no. 123/2012 by adopting Law no. 290/2020 on the approval of Government Emergency Ordinance no. 106/2020 for the amendment and completion of the Law on electricity and natural gas no. 123/2012, as well as to amend certain normative acts.

The normative act provides the following:

- Initiating the competitive process for the appointment of the OE that performs the necessary works for connection after the signing of the connection contract between the DSO and the applicant;
- Determining the responsibilities of each party involved: DSO/applicant/appointed OE, i.e. OE chosen by the applicant;
- The financing of the works by the DSO under the conditions of Article 138 (1) (d1), Article 148 (3) and Article 151 (1) of the Law, namely the introduction of the possibility to finance and carry out the works necessary for connection by the applicant through the OE selected by the latter;
- The obligation to commission the connection facility within 90 days from the date of obtaining the building permit in accordance with the provisions of Article 138 (1) (d1) of the Law, namely, to commission the natural gas distribution objective/pipeline necessary to connect the natural gas distribution system within 90 days from the date of obtaining the building permit, in accordance with the provisions of Article 151 paragraph (1) of the Law, by the OE selected in this regard by the applicant;
- The inclusion into the assets of the DSO of the objective/pipeline, namely of the connection installation, after commissioning, and the reimbursement of the amounts spent by the applicant within a maximum period of 5 years from the commissioning of the natural gas installation;
- Performance of the competitive process of appointing the OE for all connection requests registered during a month, divided per UAT/county/sector, according to the size of the distribution operator, in two stages, the criterion for the award of the purchase contract is "lowest price", so that the impact on distribution tariffs is minimal;
- The connection facility, i.e. the necessary connection objective/pipeline, is part of the assets of the DSO and is operated/exploited by the transmission system operator, except for those which are financed by non-reimbursable funds or by the applicant, non-household customer, if the length of the extension and connection installation exceeds 2500m, in which case only the DSO operates these objectives;
- Introduction of the connection contract for all applicants, namely obligations relating to the time-limit for the installation for the use of natural gas, and penalties for the applicant, if the latter does not comply with this obligation;
- Stipulation of an obligation for applicants to commission the natural gas installation within 180 days of the commissioning of the connection installation;
- Reimbursement of connection charges in accordance with the principles set out in the Law, on the recognition in the distribution tariffs of the costs relating to the connection of applicants;
- Establishment of specific rules for the developers of residential complexes for the connection to DSs of apartment buildings and/or individual dwellings.

The adoption of this Regulation aimed to streamline the process of connection to the natural gas distribution system.

4. Order no. 29 of 14.04.2021 amending and supplementing the Order of the National Energy Regulatory Authority no. 105/2018 for the approval of the General rules on centralized gas markets

The Regulation introduces a set of minimum requirements to be met, in order to participate in trading in this market segment.

The main advantages generated by trading with derivatives are as follows:

- The trading process is anonymous. The participants do not know each other's identity and can make decisions strictly based on the conditions of supply and demand, because the

counterparty interposes between the parties, becoming buyer for the seller and seller for the buyer;

- Price is the key element in the negotiation. All participants have a single price for which they compete, provided that the contract is standardized and post-trade conditions are non-negotiable;
- The treatment applied in the guarantee process is an equal one. All participants must submit the same amount of collateral in relation to a similar level of contract entered into by means of the transaction;
- Payment terms are identical. Participants have the same rights and obligations regarding payment / collection deadlines, regardless of traded quantity;
- Contractual conditions are standardized. Participants offer a fixed set of contractual conditions (called the "contract specification"), which are defined by the centralized market operator by means of a specific operational procedure;
- The risk of default is minimized. Post-trade financial operations are carried out by means of a specialized entity (counterparty);
- Operating costs are lower than those associated with trading the underlying asset.

5. Order no. 95 of 01.09.2021 approving the Regulation on the organized trading framework for standardized products on centralized natural gas markets managed by Bursa Română de Mărfuri S.A. (Romanian Commodities Exchange S.A.)

The object of the normative act was the approval according to the provisions of Art. 13 (1) of ANRE Order no. 105/2018, of the Regulation on the organized trading framework for standardized products on centralized natural gas markets managed by Bursa Română de Mărfuri S.A. (Romanian Commodities Exchange S.A.).

By means of approving the Regulation, the possibility for the Romanian Commodities Exchange S.A. to implement additional instruments for the medium and long-term trading of natural gas was generated. The participants in the gas market will be able to choose a new market segment for natural gas trading, in accordance with the provisions of ANRE Order no. 105/2018, with subsequent amendments and completions.

6. Order no. 107 of 13.10.2021 approving the Regulation on the organized trading framework on the centralized gas markets managed by the electricity and natural gas market operator OPCOM S.A.

The subject of the normative act related to the approval of the Regulation on the organized trading framework on the centralized gas markets managed by the electricity and natural gas market operator OPCOM-SA, according to the provisions of Article 13 (1) of the General rules on centralized gas markets, approved by means of ANRE Order no. 105/2018, with subsequent amendments and completions.

7. Order no. 113 of 10.11.2021 on the approval of the technical norm for the design, execution and operation of LNG storage and regasification facilities for the supply of natural gas to household and industrial customers

With a view to implementing the international framework on the EU strategy for the large-scale development of an LNG infrastructure as an alternative fuel in the transport sector by transposing, at national level, Directive 2014/94/EU on alternative fuels, OMV Petrom SA has submitted a proposal for a "Technical standard for design, execution and operation of LNG storage and gasification systems for the supply of natural gas to household and industrial consumers".

The draft standard has been submitted for analysis to the following entities: National Institute for Research and Development for Mining Security and Anti-explosive Protection –

INSEMEX, State Inspectorate for the Control of Boilers, Pressure Vessels and Lifting Installations – ISCIR and the General Inspectorate for Emergency situations – IGSU, which issued proposals considered when drafting the normative act.

The activities set out in the Regulation relate to the design, execution and operation of LNG storage and regasification systems to supply household and industrial customers, accident prevention and the definition of safety requirements for the protection of individuals and property. The systems are fitted at customer-level and are intended for individual and exclusive supply to the customer, as they are not connected to the natural gas transmission or distribution system.

The normative act contains the necessary information to establish the requirements for the location and compliance of safety distances in the premises of natural individuals or legal entities where LNG storage and regasification systems will be carried out to ensure the supply of natural gas to household and industrial customers and security/safety measures in use.

8. ANRE Order no. 125/08.12.2021 amending and supplementing the Regulation on the last resort supply of natural gas, approved by means of Order of the National Energy Regulatory Authority no. 17/2020

The main amendments/additions to the *Regulation* consisted of:

- amending the principles of the appointment of SoLR, having established that ANRE should appoint a number of at least 5 SoLR whose cumulative market share, calculated by equal weighting of the number of final customers and the amount of energy sold to them in the last 12 months, for which ANRE has data following the activity of monitoring the natural gas market, to be at least 70%;
- amendment of the period within which the supplier may send to ANRE a notification expressing the former's intention to renounce the status of SoLR, namely, from 45 days to 60 days before the date as of which the supplier wishes to give up the status of SoLR;
- introduction of a new situation, in which a final customer may end up in a situation where the supply of natural gas is not ensured, i.e. if, during the process of changing the natural gas supplier, before the entry into force of the contract for the supply of natural gas with the new supplier, the new supplier becomes unable to provide the natural gas supply under the conditions stipulated by the regulations in force;
- amendment of the method of determining the price for the supply of natural gas under last resort conditions, which is not fixed for the previous calendar month, but for the following month, in this respect, the SoLR is free to estimate on their own, similarly to the offer on the competitive market, both the unit cost of the acquisition of natural gas, in order to carry out the activity of supplying natural gas under last resort conditions, and the unit component of supplying natural gas under last resort conditions and the unit cost of the gas transmission service

9. Order no. 126 of 08.12.2021 amending and supplementing the Network code for the National gas transmission system, approved by means of Order of the National Energy Regulatory Authority no. 16/2013

S.N.T.G.N. Transgaz SA, acting as transmission system operator, has submitted to ANRE a series of proposals for amending and supplementing the Network code, which mainly aim at eliminating the risk of non-payment of bills, based on the provisions of EU Regulation no. 312/2014, as well as the ACER ENTSOG Report of February 10th, 2021 „Misconduct at EU balancing zones - Policy paper with recommendations"

The main changes and additions made in relation to the order are as follows:

- Amendment of the definition of a gas year, in order to harmonize with the definition of the gas day set out in the Network code, as amended in accordance with Article 3(16) of Commission Regulation (EU) 2017/459 of March 16th, 2017 establishing a Network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) no 984/2013;
- The extension of the deadline (from 14:30 to 15:00) until which the TSO is required to publish on its website information on the imbalances recorded by the UR, the total imbalance of the SNT, the weighted average price, the marginal selling price and the marginal buying price for the previous gas day (D-1);
- The extension of the deadline (from the end of gas day D to 12:00 o'clock of gas day D+1) until which the TSO publishes information on each operational balancing action of the TSO on its website and information platform;
- Specification of the situations in which the UR may be in, depending on the daily imbalance recorded, namely in terms of balanced, surplus or deficit values;
- Amendment of the provisions regarding the date when the payment is considered carried out in due time, in order to be in accordance with the provisions of Article 1497 of the Civil Code, approved by means of Law no. 297/2009, republished, with subsequent amendments.

At the same time, the balancing and access to the PVT contract, provided in Annex no. 1^3 to the Network code, was amended and completed. The gas balancing market participation agreement, as set out in the Annex to the balancing and PVT access contract, has been supplemented with the possibility for TSOs to delegate a third party to submit, via the trading platform, the confirmation of the validation of bids/information on the invalidation of bids.

10. ANRE Order no. 139 of 22.12.2021 on amendment and completion of the framework contract for natural gas distribution and the general contract conditions for the provision of the natural gas distribution service, approved by means of Order of the National Energy Regulatory Authority no. 78/2020, and the Regulation on the supply of natural gas to final customers, approved by means of Order of the National Energy Regulatory Authority no. 29/2016

Taking into account the process of liberalization of the natural gas market, which stimulates and causes final customers to increasingly exercise their right to switch their natural gas supplier, difficulties were reported in billing the value of recalculated distribution services in case of change in the classification of consumption sites of final customers who changed supplier during the year, if the change of classification is carried out at the beginning of the year for the previous year.

At the same time, in the context of the increase in the switching rate of suppliers, distribution operators have faced an increased consumption in terms of human resources and materials necessary for the conclusion of addendums to the distribution contract only in editable format and not electronical format, as well, for the situations in which a consumption site must be included, modified or removed from the contract.

Taking into account the above mentioned, in order to eliminate the difficulties reported and to streamline the process of amending the gas distribution contract with regard to the inclusion/amendment/removal of consumption sites in the Annex to the distribution contract concluded between the supplier and the distribution system operator, in order to align legislation in the gas sector with that in the electricity sector and to corroborate the period for which distribution tariffs are set with that for which the allocation of consumption sites is established, ANRE approved Order no. 139/2021 for the amendment and completion

of Order no. 78/2020 on the approval of the Framework contract for the distribution of natural gas and the General contract conditions for the supply of gas distribution service and Order no. 29/2016 for the approval of the Regulation on the supply of natural gas to final customers.

11. Order no. 141/22.12.2021 on the approval of the Regulation on the programming and operation of underground storage facilities of natural gas

The normative act establishes the principles related to safe, efficient and environmentally-sound operation of underground storage facilities of natural gas.

The purpose of the Regulation is to establish:

- the necessary criteria to ensure third party access to storage facilities, based on objective, transparent and non-discriminatory criteria;
- the general principles underlying the preparation of underground gas storage programs, how to program the injection or extraction process of natural gas quantities, broken down per months, days, hours, underground gas storage warehouses, the users of the underground gas storage system;
- the responsibilities of the parties involved in the underground storage of natural gas;
- the principles of safe, efficient and environmentally-sound operation, in relation to underground storage of natural gas;
- the transmission of information in relation to the underground gas storage operators with the users of the underground gas storage system and the TSO.
- the provisions of adequate means for the fulfilment of public service obligations.

DECISIONS

1. Decision no. 155 of 03.02.2021 on the application of European network codes at interconnection points between the National transmission system in Romania and the transmission systems in Ukraine and the Republic of Moldova

The implementation of the provisions of Directive (EU) 2019/692 of the European Parliament and of the Council of April 17th, 2019 amending Directive 2009/73/EC on common rules for the internal market for natural gas aims to ensure that the rules applicable to natural gas transmission pipelines connecting two or several Member States shall also apply, within the Union, to gas transmission pipelines to and from third countries.

Prior to the adoption of Directive (EU) 2019/692, the provisions of Article 1 (2) of Commission Regulation (EU) 2015/703 of April 30th, 2015 establishing a Network code for the rules on interoperability and data exchange and those of Article 2 (1) of Commission Regulation (EU) 2017/459 of March 16th, 2017 establishing a Network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No. 984/2013, stated that the provisions of the two Regulations may apply to entry points from and exit points to third countries, subject to the decision of relevant national authorities.

On January 30th, 2017, a statement of the National Energy Regulatory Authority was signed, establishing the application of network codes in interconnection points between the contracting parties of the energy Community and the Member States of the European Union.

On the basis of its legal prerogatives, ANRE issued the decision establishing the application of European network codes within the interconnection points between the national gas transmission system in Romania and the transmission systems in Ukraine and the Republic of Moldova, provided that the national regulatory authorities of Ukraine and the Republic of Moldova notify the European Commission, the Directorate-General for Energy,

the Energy Community Secretariat in what concerns the implementation and application of the provisions of the same network codes within the relevant interconnection points.

2. Decision no. 1721 of 01.09.2021 amending and supplementing the Annex to ANRE President Decision no. 1397/2019 for the approval of the centralized list of marketable products within the short-term standardized products market, medium and long-term standardized products market, medium and long-term flexible products market, standardized medium and long term derivatives market

On April 14th, 2021, ANRE Order no. 29/2021 amending and supplementing the Order of the National Energy Regulatory Authority no. 105/2018 for the approval of the General rules on centralized gas markets was approved. The main novelty related to the introduction of a new segment on the centralized gas market – **the market for standardized medium and long term derivatives**, representing "*the organized framework for trading natural gas under futures contracts, with settlement exclusively via physical delivery, having as object the transfer of ownership in the PVT, based on the trading report, on quantities of natural gas that cannot be subsequently modified and which are to be delivered in a constant profile established by means of contract, for a period of time longer than one gas day*".

In applying the provisions of the normative act, the two centralized gas markets management operators sent the requests to update the List.

3. ANRE Decision no. 2233 of 08.12.2022 on the termination of the applicability of ANRE Decision no. 1991/29.10.2020 on the appointment of CEZ VÂNZARE S.A. as a supplier of last resort

4. ANRE Decision no. 2234 of 08.12.2022 on the cessation of the applicability of ANRE Decision no. 1991/29.10.2020 on the appointment of CIS GAZ S.A. as a supplier of last resort

5. ANRE Decision no. 2235 of 08.12.2022 on the cessation of the applicability of ANRE Decision no. 1991/29.10.2020 on the appointment of ENGIE Romania S.A. as a supplier of last resort

6. ANRE Decision no. 2236 of 14.12.2021 on the appointment of ENGIE Romania S.A. as a natural gas supplier of last resort

7. ANRE Decision no. 2237 of 14.12.2021 on the appointment of E.ON Energie Romania S.A. as a natural gas supplier of last resort

8. ANRE Decision no. 2238 of 14.12.2021 on the appointment of OMV Petrom S.A. as a natural gas supplier of last resort

9. Decision no. 2319 of 16.12.2021 on the quantities of natural gas which S.N.G.N. ROMGAZ S.A. has the obligation to supply on the centralized markets during the period January 1st, 2022 - December 31st, 2022.

10. Decision no. 2320 of 16.12.2021 on the quantities of natural gas which S.C. OMV PETROM S.A. has the obligation to supply on the centralized markets during the period January 1st, 2022 - December 31st, 2022

The two Decisions (no. 2319 and no. 2320) were drawn up on the basis of the provisions of Art. 1 para. (7) of ANRE Order no. 143/2020: "*(7) The quantities of natural gas related to the tender obligation resulting from the application of this order shall be established by means of decision of the President of ANRE and shall be communicated by ANRE to each holder of the tender obligation."* and shall determine the quantities of natural gas that OMV Petrom SA and ROMGAZ SA, as natural gas producers whose annual

production in the previous year exceeds 3.000.000 MWh, are required to offer in a transparent, public and non-discriminatory manner on the centralized gas markets during the period January 1st, 2022 and December 31st, 2022, in accordance with the provisions of Art. 177 para. (3^{16}) of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, and of ANRE Order no. 143/2020.

NOTIFICATIONS

1. Notification no. 3 of 31.03.2021 - Approval of internal procedure - Use of HDPE pipes with PP protective layer, TYPE "GasPRO" - PSL 64 – developed by S.C. Gaz Vest S.A. Arad

In accordance with the provisions of Article 158 of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, hereinafter referred to as the Law, the following is stipulated under *"Article 158 The use of equipment, installations, appliances, products and processes in the natural gas sector*

(1) the use of equipment, installations, appliances, products and processes in the natural gas sector is allowed after obtaining in advance the approval of the system operator, based on methodologies / procedures developed by the latter and endorsed by ANRE.

The purpose of the procedure is to determine the use by S.C. Gaz Vest S.A. Arad of high density polyethylene (HDPE) pipes with polypropylene (PP)-type "GasPRO" protective coating produced by SC Valrom Industrie SRL.

The procedure shall apply to the safe design, execution and operation of natural gas supply systems with pressures equal to or less than $10 \cdot 10^5$ Pa (10 bar) within distribution systems operated by the S.C. Gaz Vest S.A. Arad.

POCA PROJECT on the national electricity and gas supplier switching online platform (POSF)

Since 02.07.2020, the National Energy Regulatory Authority and the Ministry of Public Works, Development and Administration, acting as Managing Authority for the Operational Program - Administrative capacity, signed financing contract no. 529/02.07.2020 for the granting of **non-reimbursable financing** for the implementation of the project entitled "***Development of the institutional capacity of the National Energy Regulatory Authority to simplify the process of switching the electricity and natural gas supplier"***, SIPOCA/SMIS code 705/129990, hereinafter referred to as the POCA project.

The POCA project, with a deadline of completion set for **September 2022**, is co-financed by the European Social Fund, through the Operational Program - Administrative capacity 2014-2020, and the total value of the project is **RON 19,223,269.45** out of which:

- **98% non-refundable expenses: RON 18,838,804.07** and
- **2% ANRE own contribution expenses: RON 384,465.38**

The overall objective of the POCA project is to achieve a ***single platform at national level aimed at changing the supplier of electricity and/or natural gas (POSF) by final customers***. With the help of the POSF, measures will be taken to simplify administrative procedures for all final customers involved in the process of switching electricity and natural gas suppliers, by implementing an intuitive and innovative IT solution that will contribute to the development of a dynamic and competitive energy market and that will ensure fulfilment

of the requirements of relevant Community legislation. Thus, by implementing this IT solution for the purpose of changing the supplier of electricity and natural gas, the current term of 21 days will be reduced, in order to meet the European requirements that require that by 2026 the technical process of switching the supplier to be completed in 24 h.

The obligation to ensure the development of the ***POSF*** lies in the provisions of Article 7 ^ 6 of the ***Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions,*** according to which *"in the application of the provisions of Article 62 paragraph (3) for the purpose of digitalizing the changing of suppliers, ANRE develops and operates an integrated IT platform, unique at national level, by means of which the final customer can change the electricity supplier. The license holders involved in switching the electricity supplier have the obligation to provide the data and information necessary for the achievement and operation of the platform, according to ANRE regulations. ANRE may delegate the operating activity to a service provider that is not affiliated to an electricity network provider/operator*." We mention that, upon completion of the project, ANRE will be administrator of the POSF.

The project is carried out as planned. The public tender procedures for the purchase of services and products within the project were carried out, the hardware equipment was delivered and installed, the platform's functionalities were tested. The draft order for the Regulation on the organization and functioning of the online platform for switching the supplier of electricity and natural gas and for contracting the supply of electricity and natural gas was elaborated.

1.3. COMMON REGULATIONS (ELECTRICITY/NATURAL GAS) DEVELOPED THROUGHOUT 2021

1. ANRE Order no. 83 of 30.06.2021 on the approval of the Performance standard for the activity of electricity / natural gas supply

In the context of the liberalization of the electricity and natural gas markets, the proposed Standard aimed both to unify the provisions of the performance standards for the electricity/natural gas supply activity, according to the proposals of the suppliers received during the public consultation process held in December 2020, as well as to regulate the minimum quality requirements for the electricity/natural gas supply activity and the method of tracking and assessing the performance of the suppliers' activity, establishing:
a) quality indicators for electricity/gas supply activity and guaranteed levels of these indicators;
b) the compensation that suppliers are required to pay in case of non-compliance with the guaranteed levels of quality indicators for the electricity/gas supply activity;
c) specific performance indicators regarding the suppliers' activity;
d) the manner of reporting by suppliers of information on the quality and performance of the supply activity carried out by the latter;
e) the manner in which to assess the activity carried out by the suppliers.

The date of entry into force of Order no. 83/2021 is January 1st, 2022, according to the proposal of the suppliers, except for the IC11 indicator – *time for responding to a phone call made via the telephone service (call centre),* which was established, also at the proposal of the suppliers, as follows:
a) as of January 1st, 2022, data relating to this indicator shall be reported;
b) as of July 1st, 2023, in case of violation of the guaranteed level of the quality indicator, the measure related to the sanctioning the supplier may be taken;

c) as of January 1st, 2024, suppliers are required to pay compensation, in case of non-compliance with the guaranteed level of the quality indicator.

2. ANRE Order no. 97 of 08.09.2021 for the approval of the Regulation on the establishment of the compliance program and the appointment of the compliance agent by the electricity/natural gas distribution operators and natural gas storage operators that are part of a vertically integrated economic operator, amending and completing the General conditions associated with the license for the provision of the electricity distribution service by the transferor economic operators of the electricity distribution service, approved by means of Order of the National Energy Regulatory Authority no. 73/2014, the Framework conditions for the validity of the operating license of the natural gas distribution system, approved by means of Order of the National Energy Regulatory Authority no. 84/2014, and the Framework conditions of validity associated with the license for the operation of the underground gas storage system, approved by means of Order of the National Energy Regulatory Authority no. 109/2018

According to the law, the distribution system operator must appoint a person or entity, called a compliance agent, to ensure adequate monitoring of compliance with the compliance program.

Until the time of approval of the aforementioned Order, the aforementioned monitoring activity was regulated by means of *ANRE Order no. 5/2015 for the approval of the Regulation on the monitoring by ANRE of the compliance programs established by the electricity distribution operators* and *ANRE Order no. 63/2018 for the approval of the Regulation on monitoring by the National Energy Regulatory Authority of compliance programs established by distribution system operators or natural gas storage operators*.

For the purpose of updating the provisions of the two previous Regulations, in order to match the dynamics of legislative developments at European level and to obtain a uniform regulatory framework for the monitoring of compliance programs established by electricity/gas distribution operators and natural gas storage operators, this Regulation was subsequently elaborated.

The *Regulation* concerns the method of drafting and the content of compliance programs by the electricity/natural gas distribution and storage operators of natural gas, which are part of the category of vertically integrated economic operators, the implementation of the measures provided for in the compliance program, monitoring the implementation of compliance programs and their measures, the appointment, approval and work of compliance officers, the manner in which reports are drawn up and the content of the reports drafted by the compliance officer, so that this new framework updates and facilitates the monitoring process by ANRE of compliance programs and compliance agents' activity.

The *Regulation* also aims to harmonize the *Regulation* with the specific provisions of Directive 2009/72/EC of the European Parliament and of the Council of July 13th, 2009 on common rules for the internal market for electricity and repealing Directive 2003/54/EC, of Directive 2009/73/EC of the European Parliament and of the Council of July 13th, 2009 on common rules for the internal market in natural gas and repealing Directive 2003/55/EC, of Directive 2019/944/EC of the European Parliament and of the Council of June 5th, 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU, building on the *European Commission interpretative note* on Directive 2009/72/EC on common rules for the internal market for electricity and on Directive 2009/73/EC on common rules for the internal market for natural gas.

At the same time, the order also aims at updating and harmonizing the other ANRE regulations in force, which contain provisions regarding the compliance programs and conditions for conducting the activity of compliance agents, namely ANRE Order no. 73/2014 regarding the approval of the General conditions associated with the licenses for the provision of the electricity distribution service, ANRE Order no. 84/2014 on the approval of the Framework conditions for the validity of the license for the operation of the natural gas distribution system and ANRE Order no. 109/2018 on the approval of the Framework conditions of validity associated with the license for the operation of underground gas storage systems.

3. ANRE Order no. 138 of 22.12.2021 on the amendment of certain orders of the National Energy Regulatory Authority

Following the request of the suppliers to suspend/postpone the entry into force, for the period 01.11.2021-31.07.2022, of their obligations to meet the guaranteed levels of quality indicators and to pay compensation in case of subsequent failure, Order no. 138/2021 established the following aspects:

- postponement of the entry into force of the *provisions of the Performance standard for the activity of electricity/natural gas supply*, approved by means of ANRE Order no. 83/2021, from January 1st, 2022, to July 1st, 2022;
- amendment of the deadline for responding to customers' requests regarding the electricity/natural gas bill provided in the Performance standards approved by means of Orders of ANRE President no. 6/2017 and no. 37/2007, respectively;
- Postponement of the entry into force of the provisions of Art. I items 25 – 27, 33 and 34 of ANRE Order no. 82/2021, from January 1st, 2022, to July 1st, 2022.

2. PERFORMANCE INDICATORS

2.1. Performance indicators for the electricity supply activity

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

- provisions relating to the quality of the supply activity;
- performance indicators that characterize the quality of the supply activity;
- guaranteed levels of guaranteed performance indicators;
- compensation that last resort providers pay to final universal service customers, in case of non-compliance with guaranteed levels of performance indicators.

Performance indicators for electricity supply activities are the quantitative and qualitative expression of the activity of an electricity supplier in relation to the customers the former provides services to, is in the process of contracting or is in the process of providing information, standard offers or for the purpose of handling complaints, as well as the method in which to mediate the relationship with the network operator, the provider being, in most cases, the only physical and contractual interface between these two parties: the client and the network operator, except as provided by the applicable legal and regulatory framework, in which the customer chooses to directly conclude the network contract with the network operator.

The conditions to be met, as well as the compensation that the providers of last resort are required to pay automatically to the final customers receiving the universal service, according to the provisions of the *Standard* are as follows:

Crt. No.	Performance indicator	Level guaranteed	Compensation in case of failure to achieve the guaranteed level
0	**1**	**2**	**3**
1.	The time limit for issuing the supply offer	15 business days	RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay
2.	The time limit for responding to the final customer (CF) complaint regarding the electricity bill	5 business days	RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay
3.	The term for communication to the NO of the request to resume power supply for a disconnected power station for non-payment	4 hours	RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay
4.	The time limit for responding to final customer (CF) complaints regarding the disconnection of consumption sites for failure to pay the electricity bill	5 business days after receipt of the complaint by the supplier	RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay
5.	The deadline for resolving the request for a change of the regulated supply tariff/complaints regarding the change of the regulated electricity tariff	10 business days	RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay
6.	The time to respond to final customer (CF) requests/complaints, other than those explicitly dealt with in the standard	15 business days, namely 30 days with the prior notification of the final customer (CF) within the initial 15 business days	RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay
7.	The time limits provided for in the procedure regarding the granting of compensation to household customers for home appliances receivers damaged as a result of accidental over voltages caused by the fault of the network operator, in force.		RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay
8.	The deadline for sending a request/complaint related to the activity and obligations of the NO to the final customer (CF) of the response received from the NO	Next business day, for requests/complaints received from final customers (CF) via e-mail or call centre.	RON 100, to which RON 50 is added for each day of delay, starting with the first day of delay.
		3 business days, for requests/complaints received from final customers (CF) in writing on paper/via fax.	
		3 business days for communication to the final customer (CF) of the response received from the NO.	

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

IP1 - number of billing complaints (this indicator includes both well-founded and unfounded complaints, whether or not they involved verification of the metered data by the metering operator – MO);
IP2 - number of well-founded complaints regarding billing (this indicator includes all well-founded complaints, whether or not they involved verification of human-measured data);
IP3 - number of billing complaints involving verification of measured data;
IP4 - number of requests/complaints received from final customers related to the network operator (NO) activity;
IP5 - the number of requests of household customers to receive compensation for damage to household appliances receivers, as a result of accidental surges produced in the NO's power grid;
IP6 - the number of compensation payments granted as a result of non-compliance with the deadlines set out in the standard;
IP7 - the number of compensation payments for final customers as a result of failure by the NO to comply with the performance indicators set out in the network service performance standard in force.

Following the information provided by the providers of last resort: CEZ VÂNZARE SA, ELECTRICA FURNIZARE SA, ENEL ENERGIE SA, ENEL ENERGIE MUNTENIA SA and E.ON ENERGIE ROMÂNIA SA, for the electricity supply activity carried out by them for all their final customers (both regulated and competitive) between 01.01.2021 and 31.12.2021, the following values of the performance indicators were recorded:

IP	TYPE Final customer	CEZ VÂNZARE	ELECTRICA FURNIZARE	ENEL ENERGIE	ENEL ENERGIE MUNTENIA	E.ON ENERGIE ROMÂNIA	TOTAL
IP1	household	6,842	6,459	7,170	8,936	6,319	35,726
	non-household,	685	473	1,560	1,128	638	4,484
	non-household,	67	20	118	46	0	251
	total	**7,594**	**6,952**	**8,848**	**10,110**	**6,957**	**40,461**
IP2	household	3,745	4,353	7,579	9,339	1,510	26,526
	non-household,	295	295	1,680	1,185	267	3,722
	non-household,	26	12	120	55	0	213
	total	**4,066**	**4,660**	**9,379**	**10,579**	**1,777**	**30,461**
IP3	household	3,904	5,628	2,661	2,723	2,737	17,653
	non-household,	459	424	992	695	216	2,786
	non-household,	1,505	18	64	17	0	1,604
	total	**5,868**	**6,070**	**3,717**	**3,435**	**2,953**	**22,043**
IP4	household	50,467	47,646	25,117	31,613	13,482	168,325
	non-household,	1,397	2,737	3,902	3,454	1,069	12,559
	non-household,	103	175	364	239	0	881
	total	**51,967**	50,558	**29,383**	**35,306**	**14,551**	**181,765**
IP5	**household**	**549**	**1,274**	**626**	**635**	**329**	**3,413**
IP6	household	567	354	454	961	73	2,409
	non-household,	2	12	77	46	0	137
	non-household,	0	0	1	3	0	4
	total	**569**	**366**	**532**	**1,010**	**73**	**2,550**

IP7	household	7,965	12,083	233,237	185,436	16,189	454,910
	non-household,	1,625	1,584	25,484	14,169	2,474	45,336
	non-household,	593	513	1,227	1,043	153	3,529
	total	**10,183**	**14,180**	**259,948**	**200,648**	**18,816**	**503,775**

Regarding the situation of performance indicators achieved by electricity suppliers that concluded supply contracts with final customers on the competitive market, we specify that the information received from 60 suppliers that had final customers throughout 2021 in their portfolio was analysed.

The values of performance indicators achieved by competitive suppliers in 2021 were centralized and are presented in the table below:

	PI values achieved by competitive suppliers in 2021			
	household	**non-household, small**	**non-household, large**	**total**
IP1	16,042	554	155	**16,751**
IP2	12,063	377	118	**12,558**
IP3	3,151	246	107	**3,504**
IP4	15,133	422	256	**15,811**
IP5	171	not applicable	not applicable	**171**
IP6	10	0	1	**11**
IP7	16,240	4,294	2,046	**22,580**

At the same time, in accordance with the legal provisions in force, the compensation is paid by the suppliers of last resort to the final customers receiving the universal service automatically in what concerns household customers and small non-household final customers, and based on a written request in the case of large non-household final customers. In the case of electricity supply contracts concluded on the competitive market, compensation shall be paid by suppliers in accordance with the applicable terms.

2.2. Performance indicators for the gas supply activity

The performance standard for the gas supply activity (hereinafter referred to as the *Standard)*, approved by means of ANRE Order no. 37/2007, which applies until the entry into force of the new standard approved by means of ANRE Order no. 83/2021, regulates the quality of the gas supply activity, establishing:

- performance indicators that characterize the quality of the supply activity;
- the minimum levels of guaranteed performance indicators;
- compensation that natural gas suppliers have to pay to final customers in case of non-compliance with the levels of guaranteed performance indicators.

The guaranteed performance indicators, the conditions to be met, as well as the compensation that natural gas suppliers are required to pay automatically to applicants/final customers, according to the provisions of the *Standard* are as follows:

Crt. No.	**Guaranteed performance indicator**	**Penalties**	
1.	**IPG1** - Natural gas contracting	Exceeding 15 days from the date of receipt of the request	RON 30
		every extra day	RON 5

2.	**IPG2** - Billing requests	Exceeding 15 days from the date of receipt of the request	RON 30
		every extra day	RON 5
3.	**IPG3** - Natural gas quality	Exceeding 15 days from the date of receipt of the request	RON 50
		every extra day	RON 10
4.	**IPG4** - Measurements requests	Exceeding 30 days from the date of receipt of the request	RON 30
		every extra day	RON 5
5.	**IPG5** - Penalties due for failure to fulfil payment obligations of the provider	Exceeding the 20-day period from the date on which the supplier's obligations became due	RON 150

ANRE aimed to achieve the guaranteed performance indicators – IPG, based on the reports of natural gas suppliers; in the period 01.01.2021 – 31.12.2021, a total number of 1,212,235 requests of final customers were registered, according to the following table:

Guaranteed performance indicator	Number of requests received		Number of requests solved within the deadlines imposed by IPG		Number of applicants/final customers to whom penalties have been paid		Amount of penalties paid (RON)	
	Household	Non-household	Household	Non-household	Household	Non-household	Household	Non-household
IPG1 - Natural gas contracting	1,038,556	70,910	1,037,275	70,618	1,281	292	83,080	16,870
IPG2 - Billing requests	79,880	14,858	79,418	14,738	462	120	75,254	28,795
IPG3 - Natural gas quality	249	126	248	126	1	0	140	0
IPG4 - Measurements requests	6,852	690	6,824	688	28	2	5,894	360
IPG5 - Penalties due for failure to fulfil payment obligations of the provider	106	8	1	7	105	1	16,065	150
Total	**1,125,643**	**86,592**	**1,123,766**	**86,177**	**1,877**	**415**	**180,433**	**46,175**

From the verification of the information submitted by the licensed suppliers, it was found that, for non-compliance with the guaranteed performance indicators during the period 01.01.2021 – 31.12.2021, natural gas suppliers paid penalties to 1,877 household customers and 415 non-household customers, totalling RON 226,608, as follows:

- For non-compliance with IPG 1 - *Natural gas contracting*, penalties were paid to 1,281 household customers and 292 non-household customers, totalling RON 99,950;
- For failure to comply with IPG 2 - *Billing requests*, penalties were paid to 462 household customers and 120 non-household customers, totalling RON 104,049;
- For non-compliance with IPG 3 - *Quality of supplied natural gas*, penalties were paid to one household customer, totalling RON 140;

- For non-compliance with IPG 4 - *Measurement requests*, penalties were paid to 28 household customers and 2 non-household customers, totalling RON 6,254;
- For failure to comply with IPG 5 - *Penalties due for failure to fulfil payment obligations of the supplier*, penalties were paid to 105 household customers and 1 non-household customer, totalling RON 16,215.

The degree of fulfilment by natural gas suppliers of guaranteed performance indicators - IPG in 2021, broken down per household and non-household customers is illustrated in the following table:

Guaranteed performance indicator	**Achievement degree of guaranteed performance indicators**	
	household customers	**non-household customers**
IPG1 - Natural gas contracting	99.87 %	99.58 %
IPG2 - Billing requests	99.42 %	99.19 %
IPG3 - Natural gas quality	99.59 %	100.00 %
IPG4 - Measurements requests	99.59 %	99.71 %
IPG5 - Penalties due and paid in full for failure to fulfil payment obligations of the provider	100.00 %	100.00 %
Total	99.83 %	99.52 %

The performance indicators for the gas supply activity are the quantitative and qualitative expression of the activity of a natural gas supplier in relation to the final customers the former serves, is in the process of contracting or is in the process of supplying information, standard offers or for the purpose of handling complaints, as well as for the purpose of mediating the relationship with the system operator.

3. DETERMINATION AND EVOLUTION OF REGULATED TARIFFS AND PRICES

3.1. ELECTRIC POWER

TARIFFS/PRICES APPLIED IN 2021 TO FINAL CUSTOMERS OF LAST RESORT SUPPLIERS

The role of suppliers of last resort

Suppliers of last resort in 2021 were appointed by ANRE, from the existing suppliers on the energy market, by means of competitive mechanisms, based on the *Regulation on the appointment of last resort suppliers* approved by means of ANRE Order no. 188/2020 (*Appointment Regulation*), by means of which the modalities and criteria for their selection were established, and they were required to ensure the following:

- universal service to household and non-household customers who did not exercise their right of eligibility and who met the conditions imposed by the legislation for universal service (average number of employees less than 50 and an annual turnover or total value of assets on the annual balance sheet not exceeding EUR 10 million);
- supply of electricity to non-household final customers who have not used their eligibility and do not fulfil the conditions or have not applied for universal service;
- supply of electricity to household customers and non-household customers whose suppliers are in a position of having their supply license withdrawn in the course of

their business or in any other situation identified by the competent authority, where the final customers don't benefit from an ensured supply of electricity from any other source, except for customers disconnected for electricity theft or non-payment.

According to the provisions of the *Appointment Regulation*, ANRE appoints at national level a minimum of 5 suppliers of last resort, for an indefinite period.

Suppliers of last resort are appointed in this capacity by ANRE, either following the request for appointment, submitted by a supplier, or by means of the triggering of a selection process, if, following the requests received, the number of suppliers of last resort is less than 5.

Any supplier meeting the following eligibility criteria may be appointed as supplier of last resort:

- must not undergo insolvency proceedings;
- mustn't have had the right to supply services suspended by ANRE in the last 24 months prior to the date of transmission of the appointment documentation;
- must carry out, at the date of transmission of the appointment documentation, as well as in the last 12 months prior to said transmission, the activity of supplying electricity to final customers;
- the financial rating is at least 5 or equivalent;
- must have a quality management system in place, in accordance with ISO 9001;
- must have fulfilled the obligations to pay taxes, fees and social security contributions to the state budget;
- must not have deeds registered in the tax record certificate of taxpayers in the last 24 months prior to the date of issuance of the tax record certificate.

If, as a result of the requests received, the number of suppliers of last resort is less than 5, ANRE triggers a selection process, taking into account the decreasing order of the total maximum market share of all electricity suppliers (Market share_Fz), including suppliers who have previously voluntarily withdrawn from the status of SoLR, in terms of the number of consumption sites and the amount of electricity sold to final customers in the last 3 months for which data exist, calculated according to the formula:

Market share_Fz = market share sales_Fz * 0,5 + market share number of consumption sites_Fz * 0,5
where:

- **market share sales_Fz -** market share of a supplier, depending on the amount of electricity sold to final customers according to data reported by suppliers;
- **market share number of consumption sites_Fz -** market share of a supplier, depending on the number of serviced consumption sites, according to the data communicated by the suppliers at the request of ANRE.

After verifying the fulfilment of the eligibility criteria, ANRE appoints as suppliers of last resort the suppliers with the highest market shares, until the minimum number of suppliers of last resort stipulated in the Regulation is reached.

Based on the provisions of the previously mentioned Appointment Regulation, following the requests received from the suppliers, for 2021, ANRE has appointed a number of 6 suppliers of last resort, according to the list:

Crt. No.	**SoLR name**	**ANRE decision to appoint SoLR**	**Contact:**

1	CEZ Vânzare	2119 from 18.11.2020	www.cez.ro
2	Enel Energie S.A.	2120 from 18.11.2020	www.enel.ro
3	Enel Energie Muntenia S.A.	2121 from 18.11.2020	www.enel.ro
4	E.ON Energie Romania S.A.	2122 from 18.11.2020	www.eon.ro
5	Electrica Furnizare S.A.	2123 from 18.11.2020	www.electricafurnizare.ro
6	Tinmar Energy S.A.	2124 from 18.11.2020	www.tinmar.ro

Tariffs/prices applied in 2021 to final customers of suppliers of last resort

In 2021, suppliers of last resort applied the following price categories to final customers:

- the universal service price;
- the last resort price.

In the case of non-household customers in the portfolio of a supplier of last resort who did not make use of eligibility, did not meet the conditions or did not apply for universal service, the price was set by each supplier of last resort, for each network area, based on competitive criteria.

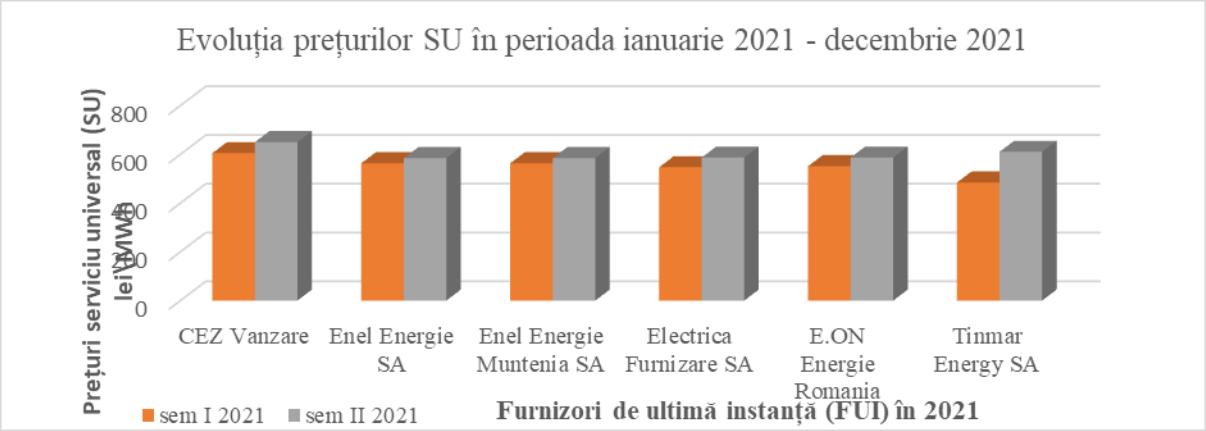
Universal service price

Prior to the amendment of **Law no. 123/2012** by means of **G.E.O. no. 143/2021** with a view to transposing into national law *Directive (EU) 2019/944 of THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of June 5th, 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU* by 31.12.2021, the universal service involving the supply of electricity under the framework contract approved by ANRE on the basis of the prices established by the suppliers of last resort under the provisions of Article 5 of Directive EU 944/2019, without the intervention of the Authority in relation to price formation, has been ensured, under specific regulated conditions, only by the suppliers of last resort (SoLR), appointed by ANRE, that covers the following two categories of customers:

- household customers;
- non-household customers with a number of employees less than 50 and an annual turnover or total value of assets in the balance sheet according to the annual tax reports not exceeding 10 million euros.

The price for universal service applied by providers of last resort to customers receiving universal services has been established by each supplier of last resort based on competitive criteria, so that said price can be reasonable, competitive, easily comparable, transparent and non-discriminatory.

In the attached chart, the evolution of universal service prices in 2021 is shown, the supply of electricity under universal service regime is conducted based on the *framework contract for the supply of electricity to household customers of last resort suppliers*, approved by ANRE.



Evolution of prices for universal services between January 2021 – December 2021, Universal service prices, Suppliers of Last Resort (SoLR)

Source: Data processed by ANRE from SoLR reporting

Last resort price

The last resort prices applied to taken over clients were set monthly by the SoLR, without ANRE intervention, based on the following formula:

PUI = p_ach + p_f [lei/MWh]

where:

- **p_ach -** the purchase price of electricity taken into account by the supplier of last resort, including Tg [lei/MWh];
- **p_f -** the supply component established by the supplier of last resort for a period of application (includes the cost of the supply activity, the cost of participation in the centralized markets managed by the electricity and gas market company operator "OPCOM" - S.A. and the profit) [RON/MWh].

In addition to the thusly established last resort price, the SoLR adds the regulated tariff for the transmission service - the component of extracting electricity from the network, the regulated tariff for the system service, the regulated tariff for the distribution service, as well as the taxes / contributions established by means of normative acts, in force during the period of application.

Based on the last resort prices communicated on a monthly basis to ANRE by the suppliers of last resort, in the first two business days of a month, ANRE publishes on its website the SoLR list in ascending order of last resort prices, and the SoLR on the first position of the list is a nominated SoLR for that month. As such, the SoLR nominee had the obligation to take over all customers who, in that month, were in a situation of not having ensured supply of electricity from any other source.

Regulated income related to the regulated activity carried out by the electricity market operator

Starting with 2020, the National Energy Regulatory Authority approves only the regulated income related to the regulated activity carried out by the electricity and gas market operator company - OPCOM S.A., acting as the operator of the electricity market; the operator shall establish the regulated tariff on the basis of the regulated income approved by the National Energy Regulatory Authority for the tariff period and shall publish it on its website.

The ways of substantiating and determining the regulated income of the electricity market operator, as well as the principles on the establishment of the regulated tariff for the regulated activity carried out by the operator for participants in the centralized electricity and green certificates markets are laid down in the Methodology for determining the regulated income for the regulated activity carried out by the electricity market operator (*Methodology*), approved by means of Order of the National Energy Regulatory Authority no. 192/2019.

According to the provisions of the *Methodology*, the regulated income for providing the services rendered by the operator to the participants in the centralized markets for each tariff period *t* is determined before the start of the tariff period. Thus, the regulated income for the tariff period 2022 was approved by means of Order of the National Energy Regulatory Authority no. 130/2021 at the value of RON 30,618,906. The value of the regulated income approved for the tariff period 2022 is 9.27% lower than the value of the regulated income of the operator of RON 33,739,620, approved by ANRE for the tariff period 2021.

On the basis of the regulated income approved by the National Energy Regulatory Authority for the tariff period 2022, the electricity market operator established the value of the regulated tariff components for this tariff period, according to the provisions of the methodology, and published them, on 16.12.2021, on its website, at:

https://www.opcom.ro/uploads/doc/FPA/Lb.romana_SINTEZA%20%20Procedura%20fact.-%20en%20el_gaz_REMIT-REVIZIA%20din%20dec.2021.pdf,

in the document "*SUMMARY of procedures on billing and payment of the regulated tariff practiced by the electricity and natural gas market operator OPCOM SA for services rendered to participants in the centralized electricity and green certificates markets, natural gas markets and for reporting services to ACER. REVISION from 16.12.2021*."

According to the provisions of the *Methodology*, ANRE periodically monitors the expenses / revenues related to the regulated activity carried out by the operator, based on the data transmitted by the operator. Thus, by June 1st of each tariff period, OPCOM SA shall send to ANRE the statement of costs/revenues incurred/achieved in the tariff period t-1/estimated on June 30th of the tariff period *t*, as well as the financial statements submitted to the Ministry of Public Finance. For 2021, ANRE monitored OPCOM's activity based on data submitted by the latter on 31.05.2021.

3.2 NATURAL GAS

The role of last resort providers

The Regulation on the last resort supply of natural gas, approved by means of ANRE Order no. 173/2020, with subsequent amendments and completions, hereinafter referred to as the *Regulation*, establishes the procedure for the appointment by ANRE of Suppliers of Last Resort (SoLR), the conditions for the conduct and cessation of the last resort supply activity, the pricing principles applied by suppliers of last resort in what concerns taken over customers, as well as the procedure for taking over the consumption sites of final customers who don't benefit from supply of natural gas from any other source.

Given the continuous increase in the purchase price of natural gas, starting with September 2021, several suppliers expressed their intention to abandon the activity of natural gas supply, requesting the withdrawal/suspension of the natural gas supply license issued by ANRE. At the same time, three requests for renunciation of the status of SoLR were registered with ANRE.

In the general context mentioned above, but also for ensuring safety, quality and continuity in the supply of natural gas to final customers and for there to be a sufficient number of SoLR appointed by ANRE that can manage, operationally and financially, in exceptional situations, a significant portfolio of clients, the Regulation was amended by means of ANRE Order no. 125/2021, establishing that ANRE should appoint a number of at least 5 SoLR, whose cumulative market share, calculated by equal weighting of the number of final customers and the amount of energy sold to them in the last 12 months, for which ANRE has data following the activity of monitoring the natural gas market, should be at least 70%. In determining the cumulative market share, the shares of the appointed SoLR shall also be taken into account, except for those for which the decision establishing the termination of the appointment decision as a SoLR has been issued.

Following the approval of the amendments and additions to the *Regulation*, ANRE initiated on 08.12.2021 the second selection process for the appointment of last resort natural gas suppliers, in order to ensure the fulfilment of the conditions stipulated in this normative act, given that 3 of the 6 already appointed SoLR had waived this status, namely the companies ENGIE ROMANIA S.A., CIS GAZ S.A. and CEZ VÂNZARE S.A.

Unlike in 2020, when the appointment of all natural gas suppliers of last resort was made only at their request, on the basis of availability and eligibility, by the deadline set in the announcement of the selection process for the appointment of SoLR, namely until 09.12.2021, no natural gas supplier was interested in participating in the selection process organized by ANRE and thus, the procedure could not be completed in the first stage through selection based on availability and eligibility, as such, **it was necessary to trigger the second stage** in order to award the status of SoLR through selection based on eligibility and capability, namely by imposing a public service obligation by ANRE.

In accordance with Article 10 (2) of the *Regulation*, a selection process shall be deemed to be completed only if the List of appointed SoLR contains at least 5 SoLR whose combined market share, calculated by equal weighting of the number of final customers and the amount of energy sold to them in the last 12 months for which ANRE has data following the activity of monitoring the natural gas market, is at least 70%, with the indication that the cumulative market share shall also take into account the shares of the appointed SoLR, except for those for which the decision establishing the termination of the appointment decision as SoLR has been issued.

With a view to establishing the merit order of natural gas suppliers according to the maximum total market share in terms of sales of natural gas to final customers and number of final customers, calculated in accordance with Article 8 of the *Regulation*, the data available as a result of the monitoring activity of the natural gas market were analysed, namely the data for the period October 2020 - September 2021, resulting in the following:

- **the cumulative market share of the appointed SoLR,** except for those for which the decision establishing the termination of the applicability of the appointment decision as SoLR was issued, **was 4.42%** (ELECTRICA FURNIZARE S.A. with a market share of 0.36%, PREMIER ENERGY S.R.L. with a market share of 2.95% and TINMAR ENERGY S.A. with a market share of 1.11%)**;**
- The first two suppliers selected in descending order of the maximum total market share were the companies ENGIE Romania S.A. with a market share of 34.62% and E.ON Energie Romania S.A. with a market share of 30.72%;
- **The cumulative market share of appointed SoLR and of the next two selected natural gas suppliers totalled 69.76%;**

- **In order to obtain a cumulative market share of at least 70%, the next supplier, OMV Petrom SA, was selected**, in descending order of the maximum total market share, **who had a market share of 9.71%, thus obtaining a cumulative market share of 79.47%.**

Thus, the companies **ENGIE Romania SA, E.ON Energie România SA and OMV Petrom SA** were selected on the basis of the capability criterion, in order to be appointed as SoLR and, given that they met the capability criterion and all the eligibility conditions provided for in the *Regulation*, they have been appointed as suppliers of last resort for natural gas.

The updated list of suppliers of last resort was published on the Authority's website under the section Gaze Naturale/Informații de interes public/Furnizare de ultimă instanță gaze naturale (Natural gas/Information of public interest/Last resort natural gas supply) (https://www.anre.ro/ro/gaze-naturale/informatii-de-interes-public/furnizare-de-ultima-instanta-gaze-naturale), which, at that time, had the following composition:

List of appointed natural gas suppliers of last resort

Crt. No.	**Company**	**ANRE appointment decision**	**Contact:**
1.	ELECTRICA FURNIZARE S.A.	1990/29.10.2020	www.electricafurnizare.ro/asistenta/knowledge-base/furnizor-de-ultima-instanta/
2.	E.ON ENERGIE ROMÂNIA S.A.	2237/14.12.2021	www.eon.ro
3.	ENGIE ROMANIA S.A.	2236/14.12.2021	www.engie.ro/furnizor-ultima-instanta/
4.	OMV PETROM S.A.	2238/14.12.2021	https://www.omvpetrom.com/ro/activitatile-noastre/downstream-gas/furnizor-de-ultima-instanta-gaze-naturale
5.	PREMIER ENERGY S.R.L.	1992/29.10.2020	https://www.premierenergy.ro/furnizor-ultima-instanta
6.	TINMAR ENERGY S.A.	2062/11.11.2020	www.tinmar.ro/furnizor-de-ultima-instanta/

At the same time, in order to avoid distortions in terms of competition, to ensure the transparent functioning of the market and to ensure that the costs incurred by the suppliers appointed as SoLR for this activity are covered by the prices charged by the suppliers appointed as SoLR for this activity, but also in the context of the unpredictability of prices on the centralized markets, by means of ANRE Order no. 125/2021, the method of determining the price for the supply of natural gas in last resort instances was modified, as it is not established for the previous calendar month, but for the next month, in this respect, the SoLR has the freedom to estimate alone, similar to a tender on the competitive market, both the unit cost of the acquisition of natural gas in order to carry out the activity of supplying natural gas under last resort conditions, and the unit component of supplying natural gas under last resort conditions and the unit cost of the gas transmission service (with the mention that these last two components will remain unchanged for a duration of 3 calendar months, given that there is greater predictability and stability).

***According to the Regulation*, for consumption sites taken over within the last resort framework, the SoLR shall apply, for each calendar month, starting from the date of take-over, the price for the last resort supply of natural gas, determined as follows:**

a) for customers who are connected to the natural gas transmission system:

PFUI = CUach-FUI + CUfz-FUI + CUtr-FUI

b) for customers who are connected to the natural gas distribution system:

PFUI = CUach-FUI + CUfz-FUI + CUtr-FUI *) + Tdx

c) for customers who are connected to the upstream supply lines related to natural gas production:

PFUI = CUach-FUI + CUfz-FUI + Tam)**

d) For taken over clients who have contract/contracts for network services concluded/concluded directly with the NO:

PFUI = CUach-FUI + CUfz-FUI

where:

P_FUI - the price for the supply of natural gas under last resort conditions (RON/MWh);

CU_ach-FUI - unit cost of natural gas procurement in order to carry out the activity of supplying natural gas under last resort conditions (RON/MWh);

CU_fz-FUI - unit component for the supply of natural gas under last resort conditions (RON/MWh);

CU_tr-FUI - unit cost of the gas transmission service (RON/MWh);

Td_x - regulated tariff for the provision of the gas distribution service by the DSO in the system in which the respective consumption site is connected, for the category "x" of final customers to which the respective customer is assigned (RON/MWh);

Tam - tariff for third-party access to upstream supply pipes established by OCA (RON/MWh).

**) in the case of a natural gas distribution system connected to an upstream supply line related to natural gas production, CU_tr-FUI will be replaced by Tam, as the case may be, depending on the technical supply solution of the taken over customer.*

***) depending on the taken over customer's technical supply solution, if applicable, the price formula will be completed by the CU_tr-FUI and/or Td_x values.*

3 business days before the end of each calendar month, the SoLR has the obligation to send, via e-mail, to the addresses published by ANRE on its website, in the special section dedicated to SoLR, in a document signed by the legal representative, the values of the price components for the supply of natural gas under last resort conditions for the following calendar month.

Within a maximum of two business days from the date of receipt of the price components, ANRE publishes on its website the ranking of SoLR in ascending order of the cumulative values of the price components for the supply of natural gas under last resort conditions transmitted by the suppliers.

The situations in which the final customer does not benefit from the supply of natural gas are identified by the *Regulation*, namely:

- if the current supplier loses the status of supplier as a result of:
  (i) withdrawal of the gas supply license;
  (ii) expiry of the natural gas supply license and failure to fulfil the conditions laid down in the regulations in force for the extension of its validity or for the granting of a new license, until the expiry of the existing supply license.
- in case of suspension of the natural gas supply license of the current supplier;

- if the final customer's current supplier fails to comply with the obligation to have a balancing and PVT access contract with the TSO, namely in the event of failure to conclude such a contract in accordance with the legal provisions in force, as well as in the case of termination or suspension of the contract due to failure to fulfil contractual obligations;
- if the current supplier of the final customer does not comply with the obligation to possess the contract for the supply of a network service, concluded with the NO, in order to circulate natural gas to the final customer's site of consumption, namely in the event of the former's failure to conclude such a contract, according to the legal provisions in force, as well as in the event of its termination due to failure to fulfil contractual obligations;
- in case of termination of the supply contract concluded by the FA with the final customer, if the final customer does not find a supplier;
- if, during the process of changing the natural gas supplier, before the entry into force of the contract for the supply of natural gas with the new supplier, the former reaches the situation of no longer being able to provide the gas supply under the conditions stipulated by the regulations in force.

A final customer may also be in a situation where the supply of natural gas is not ensured in other cases than those previously foreseen. Such cases are identified by ANRE as a result of complaints received from the participants in the natural gas market (final customers, suppliers, NOs, etc.).

Thus, under the *Regulation*, in the event of one of the above situations occurring, the final customers in question are provided by the SoLR with the supply of natural gas under last resort conditions, as follows:

- for a period of at least 12 months from the date of take-over, in the case of final customers with an annual consumption of less than or equal to 28,000 MWh, who end up in one of the situations referred to in points (a), (c) and (d) of the Regulation, they are automatically taken over by the SoLR who is ranked first in the SoLR ranking in said month, subject to the take-over capacity criterion or the take-over availability criterion, if the SoLR does not meet the take-over capacity criterion;
- for a period of 1 month from the date of take-over, in the case of final customers with an annual consumption of more than 28,000 MWh, who are in one of the situations referred to in points (a), (c) and (d) of the Regulation, they are automatically taken over by the SoLR who is ranked first in the SoLR ranking in said month, subject to the take-over capacity criterion or the take-over availability criterion, if SoLR does not meet the take-over capacity criterion;
- from the date of taking over and until the date of termination of the suspension of the gas supply license of the FA, in the case of final customers who are in the situation referred to in point b) of the Regulation, they shall be automatically taken over by the SoLR who is ranked first in the SoLR ranking in said month in compliance with the take-over capacity criterion or the take-over availability criterion, if the SoLR does not meet the take-over capacity criterion; in case the FA with the suspended gas supply license loses the quality of supplier under the conditions stipulated as per item a) of the Regulation, the SoLR will continue to ensure the supply of natural gas for taken over customers under last resort conditions, in compliance with the conditions provided for those situations;
- for a period of at least 12 months from the date of take-over, in the case of the final customer with an annual consumption of less than or equal to 28,000 MWh, who is in the situation provided for in items e) and f) of the Regulation, the customer is

automatically taken over by the SoLR who ranks first in the SoLR ranking in that month, in compliance with the take-over capacity criterion or the availability criterion, if the SoLR does not meet the take-over capacity criterion;

- for a period of one month from the date of taking over, in the case of the final customer with an annual consumption of more than 28,000 MWh, who reaches the situation provided for in items e) and f) of the Regulation, the customer is taken over as per his/her request addressed to any SoLR from those appointed by ANRE;
- for a period set by ANRE, in the case of the final customer who is in another situation identified at a later stage, the customer is taken over at the request of ANRE.

The SoLR is not obliged to supply natural gas to final customers who, at the date of takeover, don't benefit from supply of natural gas for non-payment reasons, until the final customers in question have provided proof of full payment of the amounts due, or for technical reasons, until the situation has been remedied.

The supply of natural gas under last resort conditions shall be ensured by the SoLR in what concerns customers taken over as per and in compliance with the framework contract for the supply of natural gas under last resort conditions, which has been set out as an Annex to the Regulation

Thus, the activity of supplying natural gas under last resort conditions for automatically taken over customers is carried out in compliance with the framework contract for the supply of natural gas under last resort conditions, as follows:

- without the need for a contract concluded with the SoLR, for final customers with an annual consumption of less than or equal to 28,000 MWh;
- based on a supply contract concluded with the SoLR, for final customers with an annual consumption of more than 28,000 MWh.

The commercial activity of supplying natural gas under last resort conditions to final customers requesting takeover by the SoLR shall be carried out only on the basis of a supply contract, which final customers are required to conclude with the SoLR, in compliance with the framework contract for the supply of natural gas under last resort conditions.

Considering that last resort supply is also ensured for the final customer who at a consumption site has an annual consumption of more than 28,000 MWh, in order to cover the risk of non-payment, the *Regulation* provided for the right of the SoLR to require the former to submit a financial guarantee before concluding a contract for the supply of natural gas under last resort conditions. The final customer may remove the option of establishing a financial guarantee by paying in advance the estimated consumption of natural gas, which will be offset by the final regularization bill.

During the period in which the SoLR supplies natural gas under last resort conditions, the taken over customer can choose to conclude a contract related to the supply in a competitive regime, in compliance with the procedure of switching the supplier, approved by ANRE.

The provisions of the ***Regulation on the last resort supply of natural gas***, approved by means of Order of the National Energy Regulatory Authority no. 173/2020, with subsequent amendments and completions, **which was the basis for the application by ANRE of a public service obligation on certain suppliers**, in order to ensure the supply of natural gas under last resort conditions to final customers who in certain situations don't benefit from the supply of natural gas from any other source, **comply with all the requirements of Article 173 of the Electricity and natural gas law no. 123/2012, with**

subsequent amendments and completions, and those of Article 3(2) of Directive 2009/73/EC on common rules for the internal market for natural gas, namely:

- **are justified by the general economic interest pursued, i.e. aim at ensuring safety and continuity in the supply of natural gas to final customers and therefore guarantee their protection by ensuring the supply of natural gas under last resort conditions**, under the conditions laid down in the *Regulation*, by means of an increased number of SoLR appointed by ANRE, which have a significant market share, while also involving immediate financial capability in order to be able to take over, in exceptional situations, the client portfolios of suppliers who, for various reasons, can no longer continue their activity;
- **they are clearly defined, transparent, non-discriminatory, easy to verify and guarantee equal access to final customers in what concerns suppliers**, as they enable all gas suppliers, who fulfil the eligibility criteria, to carry out a new activity, namely the supply of gas under last resort conditions, as per the conditions laid down in the *Regulation;* at the same time, the **predictability and transparency of actions in what concerns all market participants involved in this process is ensured**;
- **are in line with the principle of proportionality, as the duration of the intervention is limited in time, and the supply of natural gas to taken over customers is ensured for a limited period, i.e. at least 12 months** from the date of take-over, in the case of final customers with an annual consumption of less than or equal to 28,000 MWh, and one month from the date of take-over, in the case of final customers with an annual consumption of more than 28,000 MWh, with the possibility of extension, if they do not find a supplier until the date of termination of the supply contract concluded with the SoLR; **at the same time, until January 1st, 2024, depending on the development of the natural gas market, ANRE will assess the performance of the gas supply activity under last resort conditions, will review the principles, conditions and criteria for the appointment of last resort suppliers, and will amend them, as the case may be, so that they are proportionate to the general interest pursued by ANRE by means of the approval of this order, ensuring safety and continuity in what concerns the supply of natural gas to final customers;**
- **competition between natural gas suppliers who are to be appointed as SoLR is promoted, stimulated and ensured**, and only if the selection process cannot be completed based on availability and eligibility criteria, the status of SoLR is assigned by ANRE by means of selection based on eligibility and capability;
- the possibility of SoLR recovery by means of **supply prices under last resort conditions of all costs incurred as a result of this activity is ensured**;
- **they are applied to a limited number of final customers**, namely those who are in a situation in which natural gas supply is not ensured.

The report on the implementation of public service obligations in the natural gas sector, carried out in accordance with the provisions of Article 173 of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, Article 3 of Directive 2009/73/EC on common rules for the internal market in natural gas, was also forwarded to the Romanian Parliament and to the European Commission, for information purposes.

Between September and November 2021, the provisions of the *Regulation* regarding the takeover were applied to 9 natural gas suppliers, namely the companies Măcin Gaz SRL, Progaz P&D SA and Gecabuild SRL, following the withdrawal of the licenses for the supply of natural gas, and the companies Hargaz Harghita Gaz SA, Tulcea Gaz SA, Restart Energy

One SA, Arovi Energy SRL, Salgaz SA and Mehedinți Gaz SA, following the termination of the Balancing and PVT access contracts with SNTGN TRANSGAZ SA, the final customers in their portfolio being taken over by SoLRs.

After the entry into force on December 8th, 2021 of the amendments and additions to the *Regulation*, its provisions were applied to the companies Electric & Gas Power Trade SRL, Oligopol SRL and Res Energy Solutions SA, following the termination of the balancing and access contracts with the company SNTGN TRANSGAZ SA.

Thus, throughout 2021, 12 operators dropped their activity as of September 1st, 2021 until the end of December 2021, and over 68,000 of their consumption sites were taken over by suppliers of last resort, as follows:

Number of customers taken over by SoLR due to suppliers' withdrawal					
Crt. No.	**Supplier**	**Takeover date**	**No. of consumption sites taken over**	**SoLR**	**Reason for SoLR take-over**
1.	MĂCIN GAZ S.R.L.	September 8th, 2021	69	Electrica Furnizare S.A.	withdrawal of supply license
2.	HARGAZ HARGHITA GAZ S.A.	November 1st, 2021	7.346	Electrica Furnizare S.A.	termination of balancing and access to PVT contract
3.	PROGAZ P&D S.A.	November 2nd, 2021	4.480	Engie România S.A.	withdrawal of supply license
4.	TULCEA GAZ S.A.	November 8th, 2021	15.676	Engie România S.A.	termination of balancing and access to PVT contract
5.	GECABUILD S.R.L.	November 15th, 2021	1.356	Engie România S.A.	withdrawal of supply license
6.	RESTART ONE ENERGY S.A.	November 19th, 2021	18.645	Engie România S.A.	termination of balancing and access to PVT contract
7.	AROVI ENERGY S.R.L.	November 19th, 2021	244	Engie România S.A.	termination of balancing and access to PVT contract
8.	MEHEDINȚI GAZ	November 26th, 2021	10.275	Engie România S.A.	termination of balancing and access to PVT contract
9.	SALGAZ S.A.	November 26th, 2021	3.745	Engie România S.A.	termination of balancing and access to PVT contract
10.	ELECTRIC & GAS POWER TRADE S.R.L	December 11th, 2021	5.681	Engie România S.A.	termination of balancing and access to PVT contract
11.	OLIGOPOL S.R.L.	December 13th, 2021	964	Engie România S.A.	termination of balancing and

					access to PVT contract
12.	RES ENERGY SOLUTIONS S.A.	December 13th, 2021	38	Engie România S.A.	termination of balancing and access to PVT contract
GENERAL TOTAL (September 1st, 2021 – December 31st, 2021)			**68,519**		

Also, in order to comply with the provisions of Government Emergency Ordinance no. 70/2020 on the regulation of certain measures, starting with May 15th, 2020, in the context of the epidemiological situation caused by the spread of the SARS-CoV-2 coronavirus, for the extension of certain deadlines, for amending and supplementing Law no. 227/2015 on the Fiscal Code, the Law on national education no. 1/2011, as well as other normative acts, with subsequent amendments and completions, according to which "*during the alert state, the transmission and distribution operators of electricity and natural gas ensure the continuity of the provision of services, and, in the event a reason for disconnection becomes applicable, postpone the execution of this operation until the end of the alert state",* ANRE established that the company PREMIER ENERGY S.R.L., as the supplier of last resort for natural gas for the final customers taken over for a period of 3 months, starting with November 18th, 2020, from the portfolio of AIK ENERGY ROMÂNIA S.R.L., shall continue to ensure the supply of natural gas under last resort conditions, starting with February 18th, 2021 and until the end of the alert state, in what concerns the taken over customers who had not concluded a contract for the supply of gas on a competitive basis with effect as of February 18th, 2021.

4. STANDARD OFFER COMPARISON TOOLS

ANRE has developed and improved two tools for comparing the standard offers for the supply of electricity and natural gas in Romania for final customers, in the form of interactive web applications, one related to electricity and one related to natural gas, which can be accessed both on the ANRE website and by downloading the "ANRE" application available free of charge in the online app stores App Store and Google Play.

The interactive application *Standard offer comparison tool for electricity supply* can be accessed at the following link - https://www.anre.ro/ro/infoconsumatori/comparator-de-tarife and the interactive application *Standard offer comparison tool for natural gas supply* is available at the following link - http://www.anre.ro/ro/info-consumatori/comparator-oferte-tip-de-furnizare-a-gn.

4.1 STANDARD OFFER COMPARISON TOOL FOR ELECTRICITY SUPPLY

Directive (EU) 2019/944 of the European Parliament and of the Council of June 5th, 2019 on common rules for the internal market for electricity contains provisions on the obligation for Member States to ensure that at least household customers and micro-enterprises with an expected annual consumption of less than 100,000 KWh shall have free access to at least one tool for comparing suppliers' offers, including dynamic price electricity supply contract offers.

ANRE has implemented in advance, since 2015, comparison tools for both the electricity market and the natural gas market. Subsequently, by means of ANRE Order no. 189 of 07.11.2018 *on the obligation to inform the final customers by means of the IT*

application "Standard offers comparison tool for electricity supply", the obligation for all electricity suppliers that carry out electricity supply activity to final customers to enter in the database of the *comparison tool* standard offers published on their own websites was established.

The interactive application *Standard offer comparison tool for electricity supply* has been continuously developed, other facilities are periodically introduced, including the possibility of suppliers to upload, in the *Comparison tool*, information on how to conclude contracts and the documents necessary for concluding contracts.

At the same time, in order to ensure that customers have access to information on prices charged by energy suppliers, as a result of the abolition of regulated prices/tariffs, standard supply comparison tools have been modified.

In 2021, the *Comparison tool* was accessed by **2,324,305 users** who spent an average of 3 minutes and 59 seconds on the app, generating **3,515,268 impressions**. Thus, compared to 2020, there is **a substantial increase in the number of users** from 921,843 in 2020 to 2,324,305 in 2021, confirming that the importance of the liberalization process has been understood by a large part of final customers.

At the same time, in the context of the elimination of regulated tariffs as of January 1st, 2021, in conjunction with the intensification of the use of the Comparison tool, the number of requests related to aspects of standard offers in the Comparison tool, received by ANRE and solved by experts from the specialized divisions, increased substantially, when compared to 2020.

Also, the complex monitoring process related to information from standard offers loaded in the *Comparison tool* constantly carried out by ANRE registered in 2021 an increase in the number of requests addressed by ANRE to economic operators that have loaded standard offers in the *Comparison tool*, in order to modify or correct certain values / information, as the case may be, in those situations where it was found that the standard offers were not in accordance with the provisions of the regulations in force.

4.2 COMPARISON OF STANDARD GAS SUPPLY OFFERS

This interactive web application is implemented as a result of the provisions of Art. 5 of ANRE Order no. 106/2014 on the methods of informing the final customers by natural gas suppliers about the commercial conditions of gas supply, which has created the necessary premises for the National Energy Regulatory Authority to develop and make available to interested parties an independent and non-commercial instrument allowing for the comparison of supply prices and conditions offered by natural gas suppliers, before the choice regarding a particular supplier or a particular type of offer is made.

According to this normative act, all natural gas suppliers who develop and publish standard offers through own means are required to enter information about said offers in the database of this application. At the same time, suppliers are required to enter in this database any new standard offer and any modification of existing standard offers within 5 business days from the date of release or modification.

The use of the *Comparison tool* is intuitive and is made very simple in just two steps: users choose the selection criteria and receive a list of standard offers. Out of all standard offers entered by suppliers in the database, the Comparison tool displays those that meet the criteria entered by the user and orders them in ascending order of the gas supply price for each standard offering.

When displaying the results, users can also find out other relevant details about the offers, namely certain conditions associated with the standard offer (payment term, method of sending the bill, duration of the contract and information on the requested guarantees, as the case may be), as well as the period of validity of the standard offer. In addition, the user has the possibility to enter data for subsequent comparison, namely the supply price of the current contract and the annual consumption, thus, a comparison with the current costs is carried out.

In view of the requests received by ANRE, from the users of the *Comparison tool* (final customers and suppliers), ANRE improved the application in 2021, by introducing new features:

- a field that allows the user to select the date, and the tool subsequently displays offers that fall within this criterion;
- the possibility for suppliers to upload the contract template for each individual offer.

In 2021, the *Comparison tool* made available to customers on the ANRE website was accessed by a number of 854,548 users, who spent an average time of approx. 4 minutes and 46 seconds to consult offers. Of these, about 96% were users from Romania, and the remaining 4% from outside the country, of which we mention 0.97% from Germany, 0.79% from the UK, 0.33% from Austria and 0.25% from Italy.

Thus, compared to 2020, there is an increase of approx. 32% in the number of users (from 649,700 to 854,548), confirming that the importance of the liberalization process has been understood by a large part of final customers.

Throughout 2021, ANRE monitored the observance of the provisions of ANRE Order no. 106/2014, by monitoring the standard offers uploaded in the application by 63 natural gas suppliers, a smaller number compared to the previous year.

In the monitoring process, ANRE targeted the following aspects:

- provision by suppliers of standard offers at least for final customers (household and non-household) with an annual gas consumption of less than or equal to 28,000 MWh;
- validity of the standard offers on the provider's website;
- validity of the standard offers entered in the application database;
- introduction into the application database of standard offers published on the provider's website;
- compliance with the minimum set of information, which a standard offer must contain.

If non-conformities were identified, information was sent to the respective suppliers, with the request that they ensure the compliance of standard offers with the regulations in force.

5. LIBERALIZATION OF ELECTRICITY AND NATURAL GAS MARKETS

5.1 ELECTRIC POWER

Measures undertaken by ANRE

In the context of the liberalization of the electricity market and in order to adopt the regulatory framework necessary for the application of European principles, ANRE aimed to implement a system of regulations that would meet the requirements of a truly functional and consumer-oriented energy market, providing cost-support and fair pricing.

Following the entry into force of *GEO no. 114/2018 on the establishment of measures in the field of public investments and fiscal-budgetary measures, the amendment and*

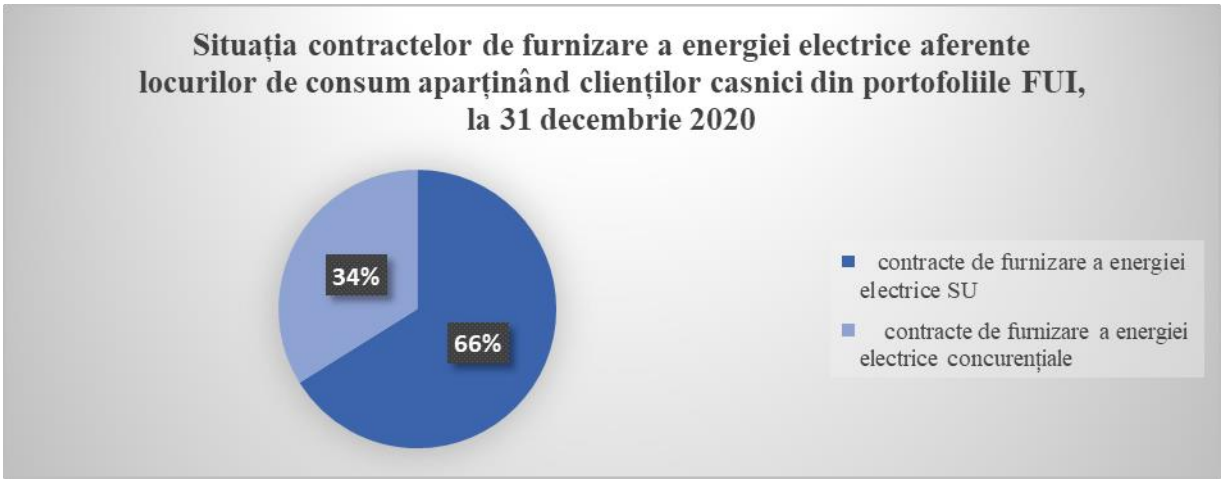
completion of certain normative acts and the extension of certain deadlines, regulated tariffs for household customers for the period March 1st, 2019 – February 28th, 2022 were reintroduced. Subsequently, by adopting *GEO no. 1/2020 on certain fiscal-budgetary measures and amending and supplementing certain normative acts,* the period until which ANRE had the right to set regulated tariffs for household customers was reduced, namely until December 31st, 2020.

In May 2020, the Government of Romania issued *GEO no. 74/2020 for the amendment and completion of the Law on electricity and natural gas no. 123/2012* by means of which the regulated tariffs were reintroduced as a public service obligation on July 1st, 2020, tariffs that could not exceed the level at that time, in correlation with ANRE's obligation to approve the necessary regulations within 30 days from the date of entry into force of the emergency ordinance.

Thus, in accordance with the provisions of Law no. 123/2012, as of January 1st, 2021, the regulated tariffs applied to household customers have been eliminated. In this context, the electricity supply prices to household customers are no longer set by ANRE, they are formed freely, based on demand and supply factors.

At the same time, regarding the approval of prices / tariffs in the field of electricity, also starting with January 1st, 2021, ANRE has the powers to regulate and establish **only the regulated tariffs for services**, namely **the tariffs for the transmission service, the system service charge and the distribution service charge**.

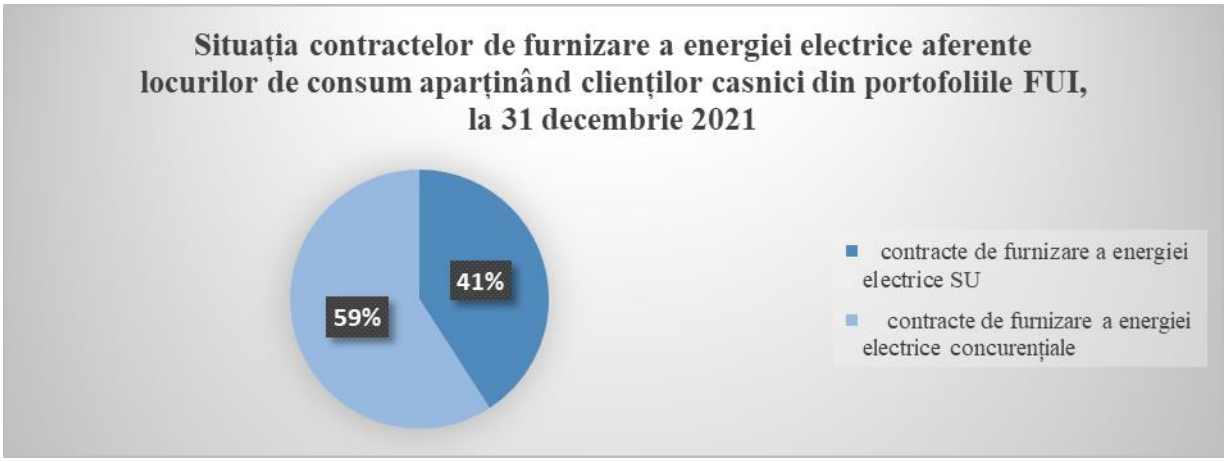
Until the date of liberalization, more precisely on **December 31st, 2020**, out of the total number of **8,924,187 consumption sites** belonging to household customers in the portfolios of SoLR, **34% had concluded competitive contracts** related to the supply of electricity, according to the following graph:



Situation of electricity supply contract related to consumption sites belonging to household customers from SoLR portfolios as of December 31st, 2020; Electricity supply contracts – universal service; Electricity supply contracts – competition conditions

Source: Data processed by ANRE from the templates reported by the SoLR

One year after the elimination of the regulated tariffs applied to household customers, namely on **December 31st, 2021**, for **59%** of the total number of **8,926,423 consumption sites** belonging to household customers from the portfolios of SoLR**,** the electricity supply **was carried out on the basis of competitive contracts**; the increase in this percentage reflects an increased interest in electricity supply contracts in the free market.



Situation of electricity supply contract related to consumption sites belonging to household customers from SoLR portfolios as of December 31st, 2021; Electricity supply contracts – universal service; Electricity supply contracts – competition conditions

Source: Data processed by ANRE from the templates reported by the SoLR

An important, even decisive role, with a significant impact on the development of a functioning competitive market relates to the information and active participation of final customers.

ANRE has completed the regulatory framework, in order to increase the level of information of household customers regarding the applicable offers, in order to give them the opportunity to benefit from a longer period of time to choose an electricity supply offer suited to their specific needs.

In this respect, information obligations for household customers, necessary in the context of the liberalization of the electricity market on January 1st, 2021, have been imposed on suppliers of last resort, and, also, principles regarding contracts applicable to household and non-household customers receiving universal service and pricing principles applied to household and non-household customers in their portfolio benefiting from universal service have been established.

Thus, according to the provisions of ANRE Order no. 171/2020 *for the approval of the conditions for the supply of electricity by the suppliers of last resort*, obligations to inform household customers were established for each semester of 2021, regarding the following aspects:

- termination of the applicability of regulated tariffs for household customers starting with January 1st, 2021, with the indication of the related legal basis, namely Article 22 paragraph (11) of the Electricity and natural gas law no. 123/2012, with subsequent amendments and completions;
- the rights conferred by the quality of eligible customer, with the express indication of the right to conclude a contract related to the supply of electricity on a competitive basis, with the current supplier or with any other electricity supplier chosen by the household customer, as well as ensuring the fact that switching the electricity supplier is a simple, free process, which does not involve technical changes, regardless of the electricity supplier chosen by the household customer and ensuring that the relationship with the network operator is not altered;
- the arrangements for concluding a contract for the supply of electricity on a competitive basis;

- the manner in which the customer can perform a comparative analysis of the standard offers of electricity supply existing on the market, namely with the help of the application "*Comparator oferte-tip de furnizare a energiei electrice*" (*Standard offer comparison tool for electricity supply*), which can be accessed on the website of the National Energy Regulatory Authority or by downloading the ANRE application on mobile devices;
- the right of the customer to benefit from universal service for an unlimited period, the type of contract applicable and the amount of the applicable price, as well as the obligation to display, as of January 1st, 2021, at the single point of contact, in the regional/local information centres and in the main window of the website, in a visible place, the prices at which electricity is supplied to household customers, as well as the value of regulated tariffs for the included services.

Also, in accordance with the provisions of ANRE Order no. 5/2021, in order to carry out the activity of informing household customers, the last resort providers had the obligation to transmit, in good faith, to the household customers from their own portfolio:

a) with each bill issued until June 30th, 2021:

(i) **information** on the elimination of regulated tariffs, in accordance with the template set out in Annex 3 to the ***Conditions***;

(ii) **the offer selection form** provided for in Annex 4 to the ***Conditions***, containing the competitive offer of the lowest value, an alternative competitive offer and the universal service offer, offers applicable in the first half of 2021, as well as the amount of the commercial discount granted and the period of application.

b) every month from May 1st to June 30th, 2021, a competitive offer and the universal service offer, applicable from July 1st, 2021;

c) with each bill issued in the second half of 2021, information in accordance with the template set out in Annex 3 to the *Conditions*.

It was also established that "*suppliers of last resort may apply in what concerns household customers of universal service, without discrimination and conditionality, a commercial discount from January 1st, 2021 until at least June 30th, 2021, equal to the difference between the price of the universal service offer applicable from January 1st to June 30th, 2021 and the price of the competitive offer*.

The competitive offer based on which the discount was calculated was the offer valid on the date of entry into force of ANRE Order no. 5/2021.

Throughout 2021, in order to ensure access to clear and complete information, in addition to the other information channels made available by ANRE (e.g. call-centre lines, website, e-mail addresses), experts from the specialized division have formulated more than **600 written answers**to the petitioners on topics related to the liberalization of the electricity market, switching suppliers or last resort supply.

ANRE actions to **inform final customers** about their rights, namely those related to the elimination of regulated electricity supply tariffs as of **January 1st, 2021**, focused mainly on **providing clarifications requested by household customers in writing, in electronic format, on paper or via call-centre lines** specially dedicated to informing the final customers, established by ANRE.

Thus, in addition to the free telephone line dedicated to informing the final customers related to electricity and natural gas - 021 9782, ANRE has made available to electricity and natural gas final customers a call centre telephone service, available at the telephone number 0374 554 265, dedicated to providing information on the liberalization of energy markets.

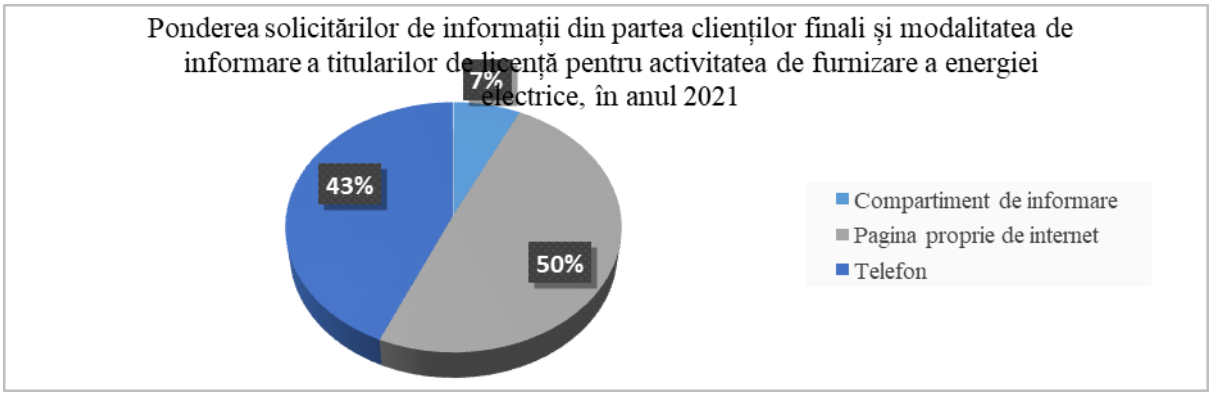
According to the results presented in the *Report on the results of the monitoring of the information activity of final customers carried out by the license holders for the electricity supply activity in 2021* (report which can be consulted on the ANRE website – www.anre.ro, accessing the following location: *Acasă/Energie electrică/Informații de interes public/Furnizori energie electrică/RAPORT informare consumatori - Home/Electricity/Information of public interest/Electricity suppliers/Consumer information REPORT*), it was revealed that, in 2021, information of the final customers by means of information materials was conducted in a proportion of 87% by the license holders for the monitored electricity supply activity, **14% more than the previous year**, and the information provided via the website was **conducted by all monitored providers.**

It is noted that, in 2021, the holders of electricity supply licenses who had their website under construction or incomplete in 2020 **remedied the problems related to accessing the websites and/or supplemented them with the information provided in the *Regulation on information activity of final electricity and natural gas customers, approved by means of ANRE Order no. 96/2015***.

The monitoring carried out by ANRE of the information regarding the topics for which the holders of licenses for the electricity supply activity had the obligation to inform their final customers in 2021 resulted in the fact that the first five topics most frequently disseminated concerned:

- *prices and types of tariffs applied (12%);*
- *method of metering, billing, content of the bill and means of payment (11%);*
- *rights and obligations of final customers (10%);*
- *main normative acts regulating the field of electricity and natural gas relevant to the final customers (10%);*
- *main clauses of the supply contract (9%).*

As regards the **main communication channels** used by the electricity supply license holders monitored in the process of resolving requests for information received from final customers, it was revealed that **50%** of final customer requests were received and resolved by means of *providers' websites*, **43%** *via phone,* **and 7%** via *providers' information departments*.

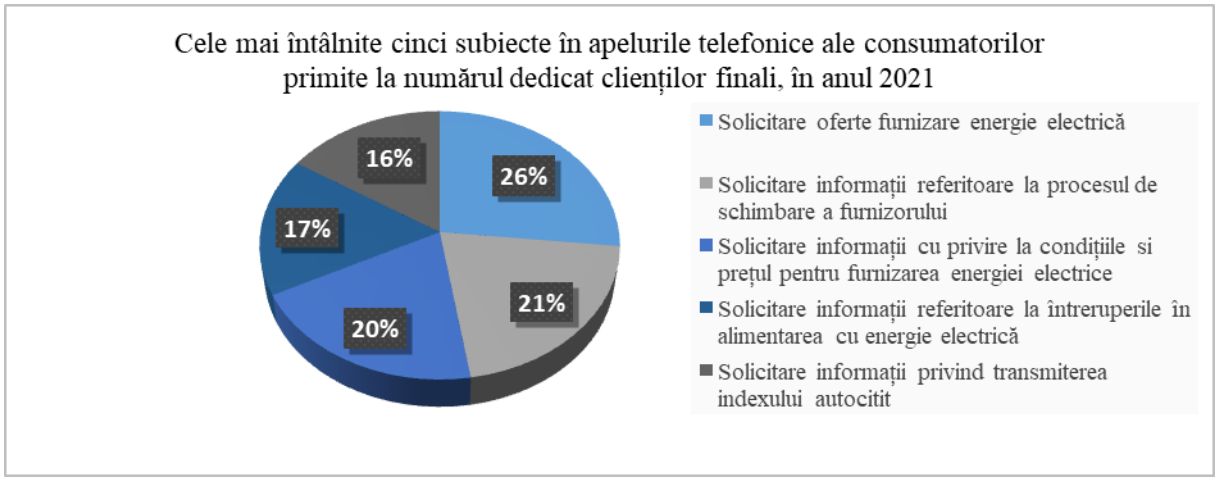


Weighting of information requests from final customers and information methods in what concerns license holders for the activity of electricity supply in 2021; Information department, own internet webpage, telephone

Also, compared to 2020, in 2021 there was an increase in the percentage of requests for information received from final customers that were handled by providers **via telephone**, from a share of 23 % in 2020, to a share of **43% in 2021.**

The topics most frequently expressed during telephone calls in 2021 by final customers refer to requests for information regarding the following aspects:

- *request for electricity supply offers* (26%);
- *request for information on the supplier switching process* (21%);
- *request for information on the conditions and price of electricity supply* (20%);
- *request for information on power supply disruptions* (17%);
- *request for information on the remittance of self-read meter data* (16%).



Top 5 most common topics from consumer telephone calls received at the desiccated telephone number in 2021; request for electricity supply offers; request for information on the supplier switching process; request for information on the conditions and price of electricity supply; request for information on power supply disruptions; request for information on the remittance of self-read meter data

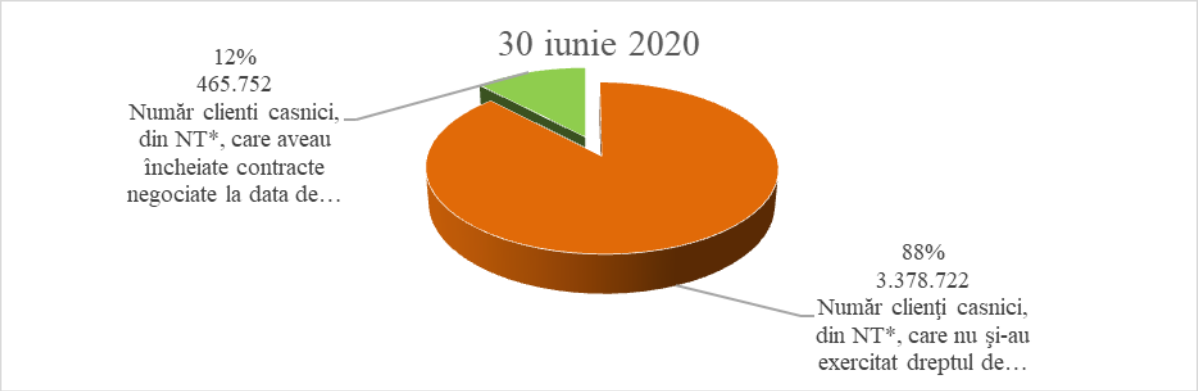
5.2 NATURAL GAS

Measures undertaken by ANRE

According to the provisions of the Law on electricity and natural gas no. 123/2012, **starting with July 1st, 2020, the domestic gas market for household customers was liberalized** and the final regulated prices for said customers ceased to apply.

The total liberalization of the internal market for natural gas on July 1st, 2020 implies the need for the conclusion by household customers of contracts related to the supply of natural gas under competitive conditions, in order to ensure the supply of natural gas after the date of liberalization mentioned above.

Until the date of liberalization, more precisely on June 30th, 2020, of the total number of 3,844,474 household customers ($NT_{iunie2020}$), **12% had contracts related to the supply of gas under competitive conditions,** according to the following chart:



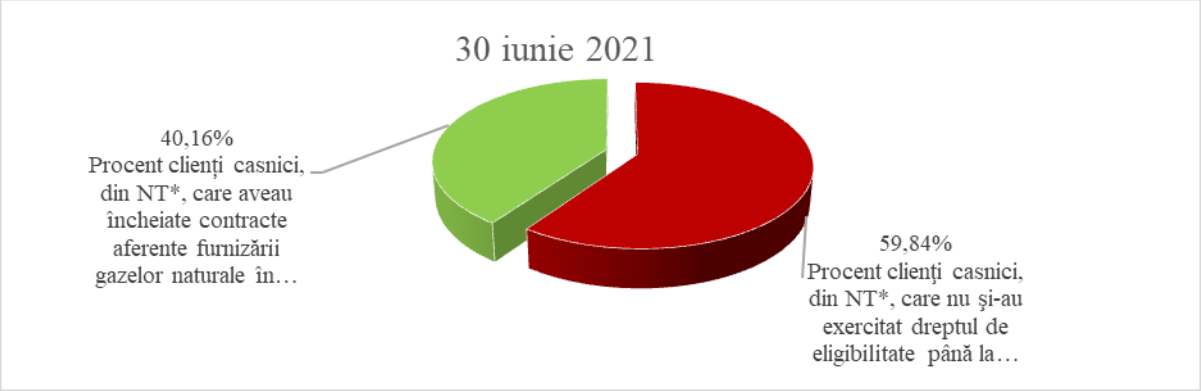
June 30th, 2020; Number of household customers from NT who had concluded negotiated contracts by…; Number of household customers from NT* who had not exercised their right to…*

**NT - total number of household consumers estimated as of June 30th, 2020*

In this context, the establishment by ANRE of a set of legislative measures on informing and ensuring the supply of natural gas to household customers who were in the regulated segment of the market was deemed necessary, in the context of the elimination of regulated supply prices for this category of customers.

In view of these considerations, ANRE Order no. 27/26.03.2020 was released, which aimed to establish the information measures that were required for the liberalization of the internal market of natural gas on July 1st, 2020, as well as to lay down rules on the performance of contractual relations in which household customers are involved, in the context of their transition from the regulated market to the competitive market, in order to ensure continuity in what concerns the supply of natural gas to household customers who were in the regulated segment of the market and who are not yet exercising their right of eligibility by concluding a contract related to the supply of natural gas on a competitive basis with the chosen supplier. In the event that the Authority had not provided the legal framework necessary to continue the supply of natural gas and in the event of non-expression of the eligibility right of household customers, the commercial relations between these household customers and their suppliers would have suddenly ceased on the date of liberalization, and this would have led to the extreme situation of interruption of natural gas supply to the respective consumption sites of said customers. In order to avoid this situation and taking into account the short time until the moment of liberalization, a transitional period of one year has been introduced, during which the inactive household customer, who did not exercise his/her right of eligibility and did not conclude a contract for the supply of natural gas under a competitive regime, is still guaranteed the supply by the current supplier automatically after the date of liberalization. Thus, as of July 1st, 2020 until the date of conclusion of a contract for the supply of natural gas under competitive conditions, but no later than June 30th, 2021, the supply of natural gas to inactive household customers was carried out under the previous contractual conditions, namely, based on the regulated contract that the customer had concluded with the current supplier, but at the competitive price communicated to the customer by the current supplier in the period before liberalization.

Based on the data reported by the 31 suppliers who, up to the date of liberalization, had in their portfolio household customers for which the natural gas supply was carried out under regulated regime, ANRE analysed the status of conclusion by household customers of contracts related to the supply of natural gas under competitive regime, **and thus, by the end of the transition period, i.e. by June 30th, 2021**, **of the total number of household customers (NT*), approximately 40.16% had contracts for the supply of gas under competitive conditions**, a situation reflected in the chart below:



June 30th, 2021; Number of household customers from NT who had concluded negotiated contracts by…; Number of household customers from NT* who had not exercised their eligibility right by…*

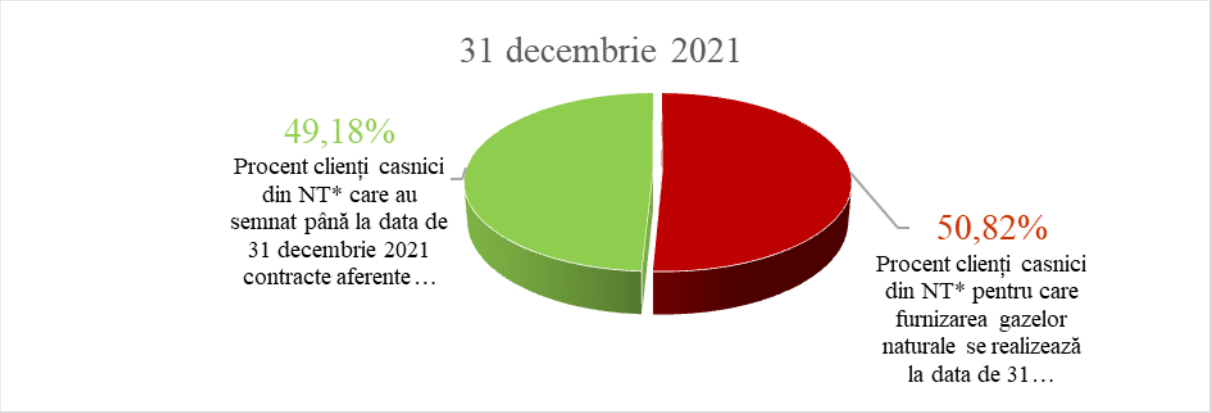
**NT - total number of household consumers estimated as of June 30th, 2021*

At the same time, according to the provisions of Order no. 27/2020, between April 1st – May 31st, 2021, natural gas suppliers were required to submit to household customers in their portfolio who did not exercise their right of eligibility a notification with **an offer related to their proposed price for the supply of natural gas as of July 1st, 2021**, as well as a clear and explicit reference to where the proposed contract for the supply of gas under competitive conditions could be consulted.

If the household customer did not exercise his/her right of eligibility until the end of the transition period, more precisely until June 30th, 2021, and did not conclude, with the current supplier or with another supplier, a contract related to the supply of natural gas under competitive conditions, **the offer proposed by the current supplier was deemed accepted and, consequently, the gas supply contract related to this offer was deemed tacitly concluded as of July 1st, 2021**, unless the household customer communicates to the supplier, until that date, the former's refusal to sign the contract or a request to modify/supplement the contractual terms/clauses, as the case may be.

With a view to continuing the activity of monitoring the number of household customers who benefited from regulated prices until June 30th, 2020 and who subsequently concluded contracts for the supply of natural gas on the competitive market, ANRE followed the status of the conclusion by the household customers of contracts related to the supply of natural gas under competitive conditions after June 30th, 2021, when the transition period ended.

Until December 31st, 2021, based on the data reported by the suppliers who, up to the date of liberalization, had in their portfolio household customers for which the supply of natural gas was carried out under regulated regime, **of the total number of household customers (NT*) approximately 49.18% signed contracts related to the supply of natural gas under competitive conditions**, a situation reflected in the chart below:



December 31st, 2020; Number of household customers from NT who had signed contracts by December 31st, 2021, related to…; Number of household customers from NT* for which natural gas supply is achieved by…*

**NT - total number of household consumers estimated as of December 31st, 2021*

Information obligations of suppliers resulting from ANRE Order no. 27/2020

Following the liberalization date, according to the provisions of this order, **the following obligations were introduced in what concerns natural gas suppliers** who have in their portfolio household customers who have not exercised their eligibility right:

- **display** in continuation and after the date of liberalization, namely **until June 30th, 2021, at the single point of contact, in the customer relations centres and on the main page of suppliers' own websites, in visible place, the information on the liberalization of the gas market**, as well as the proposed contract for the supply of gas under competitive conditions.
- **display, during the transition period July 1st, 2020 – June 30th, 2021, at the single point of contact and on the main page of the suppliers' websites, in a visible place, the prices at which natural gas is supplied to household customers who have not concluded a contract related to the supply of natural gas under competitive conditions**, in view of increasing transparency;
- **the transmission, during the period July 1st, 2020 – March 31st, 2021, of quarterly information** to household customers in their portfolio who have not concluded a contract related to the supply of natural gas under competitive conditions, **which must contain at least the following information:**
  a. information on the termination of the applicability of regulated final prices for household customers as of July 1st, 2020;
  b. information on the rights conferred by the quality of eligible customer, **with an express indication** of the right to conclude a contract related to the supply of natural gas under competitive conditions with the current supplier or with any other natural gas supplier chosen by the household customer, as well as the fact that the change of gas supplier is a simple, free process, which does not involve technical changes, regardless of the natural gas supplier chosen by the household customer;

c. information on the methods for concluding a contract for the supply of gas under competitive conditions;
d. information on how the customer can perform a comparative analysis of the standard gas supply offers available on the market, more precisely with the help of the application **„Comparator oferte-tip de furnizare a gazelor naturale" (Standard offer comparison tool for gas supply), which can be accessed online on the ANRE website, at: http://www.anre.ro/ro/info-consumatori/comparator-oferte-tip-de-furnizare-a-gn, or by downloading the ANRE application on mobile devices;**
e. information on how to ensure supply of natural gas between July 1st, 2020 and June 30th, 2021 for the household customer who does not exercise the right of eligibility.

- transmission, for the period July 1st, 2020 – June 30th, 2021, of a monthly report to ANRE, within a maximum of 15 calendar days from the end of the month for which the reporting is conducted, with the data on the supply activity carried out to inactive customers under the terms of this order.

Information obligations of suppliers resulting from ANRE Order no. 96/2015

According to the results presented in the *Report on the results of the monitoring of the information activity of final customers carried out by the license holders for the natural gas supply activity in 2021* conducted by ANRE experts within the specialized division based on the data reported by the suppliers (report which can be consulted on ANRE's website – www.anre.ro, by accessing the following location: *Acasă/Gaze Naturale/Informații de interes public/Furnizori gaze naturale/RAPORT informare consumatori - Home/Natural gas/Information of public interest/Natural gas suppliers/Consumer information REPORT*), it was revealed that, in 2021, the information of final customers by means of informative materials was carried out in a proportion of 95% by the monitored holders of licenses for the activity of supplying the natural gas, **30% more than the previous year**, and the one carried out via the website was conducted by 98/% of the monitored providers.

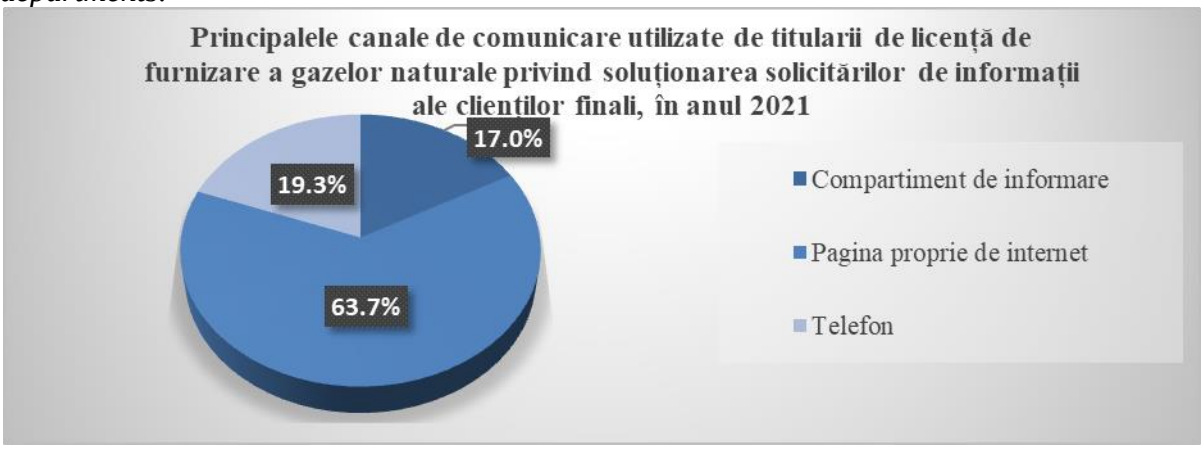
It is noted that, in 2021, the holders of the license for the supply of natural gas who had the website under construction or incomplete in 2020 **remedied the issues related to accessing the websites and/or supplemented them with the information provided in the *Regulation on the activity of information of electricity and natural gas final customers, approved by means of ANRE Order no. 96/2015***.

The monitoring carried out by ANRE of the information regarding the topics in relation to which the holders of licenses for the activity of natural gas supply had the obligation to inform their final customers in 2021 resulted in the fact that the first five topics most frequently disseminated concerned:

- *prices and types of tariffs applied - (46%);*
- *other information of interest to final customers, including energy efficiency - (12%);*
- *methods of measurement, billing, bill content and means of payment - (9%);*
- *rights and obligations of final customers - (5%);*
- *main normative acts regulating the field of electricity and natural gas, relevant for final customers - (4%).*

As regards the **main communication channels** used by the gas supply license holders monitored in the process of resolving requests for information received from final customers, it was revealed that **63.7%** of final customer requests were received and resolved by means

of *providers' websites*, **19.3%** *via telephone* **and 17%** by means of *providers' information departments*.

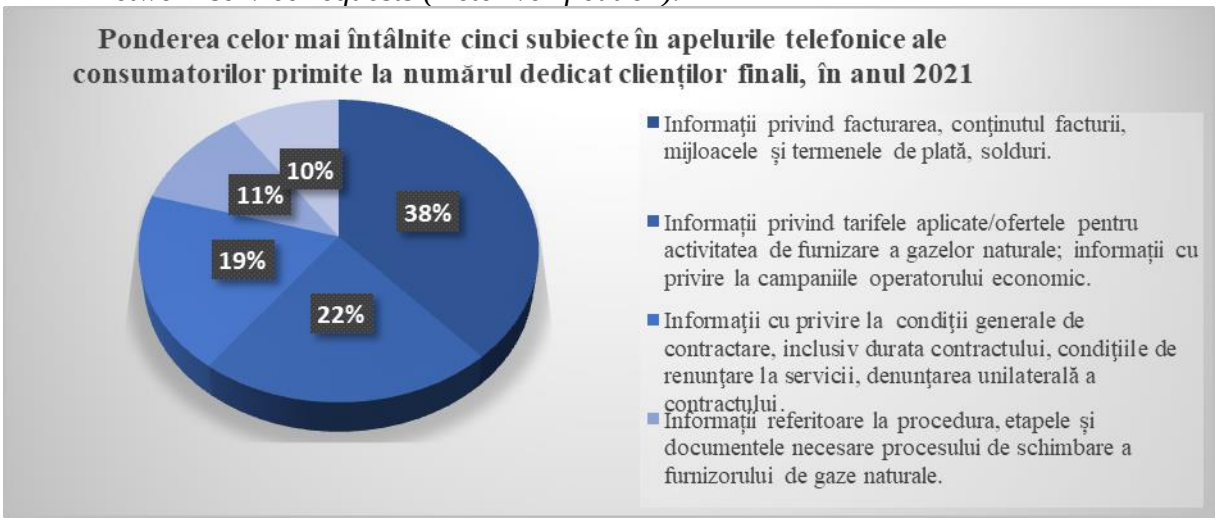


Main communication channels used by natural gas supply license holders in what concerns resolution of information requests of final customers in 2021; information department, own internet website, telephone

Compared to 2020, in 2021 there was an increase in the percentage of requests for information received from final consumers that were handled by providers **via telephone**, from a share of 6.9 % in 2020, to a share of **19.3% in 2021.**

The topics most frequently expressed during telephone calls in 2021 by final consumers refer to requests for information regarding the following:

- *billing, the content of the bill, means and terms of payment, due amounts;*
- *tariffs applied/offers for the gas supply activity and information on the economic operator's campaigns;*
- *general contractual conditions, including the duration of the contract, the conditions for renunciation of services, unilateral termination of the contract;*
- *procedure, stages and documents necessary for the process of changing the natural gas supplier;*
- *network service requests (meter verification).*



Top 5 most common topics from telephone calls of consumers received at the dedicated telephone number in 2021; billing, the content of the bill, means and terms of payment, due amounts; tariffs applied/offers for the gas supply activity and information on the economic operator's campaigns; general contractual conditions, including the duration of the contract, the conditions for renunciation of services, unilateral termination of the contract; procedure, stages and documents necessary for the process of changing the natural gas supplier

Compared to 2020, in 2021 there was an increase in the percentage of requests for information received from final customers that were handled by providers **via telephone**, from a share of 6.9 % in 2020, to a share of **19.3% in 2021.**

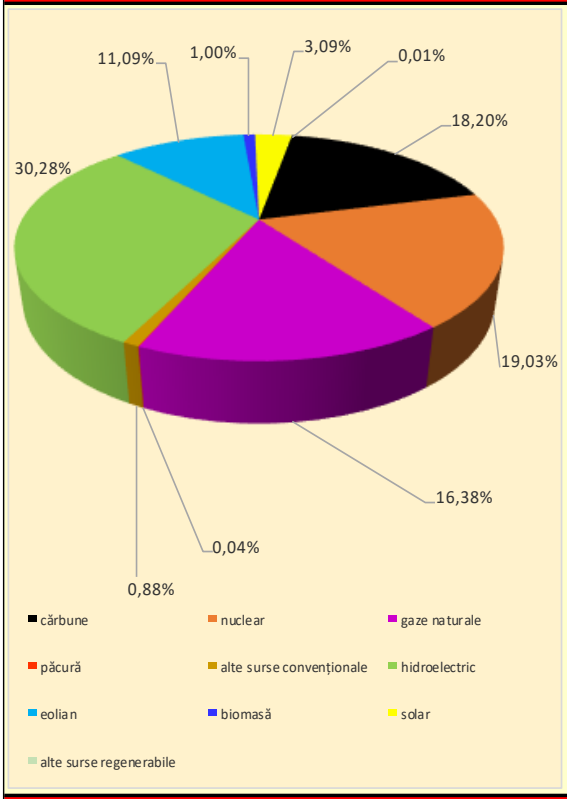
At the same time, throughout 2021, in order to ensure access to clear and complete information, in addition to the other information channels made available by ANRE (e.g. call-centre lines, website, e-mail addresses), experts from the specialized division drafted a number of **149 written responses** for petitioners, on various tangential aspects related to the liberalization of the natural gas market, the change of supplier or last resort supply.

6. THE STRUCTURE PER TYPES OF PRIMARY ENERGY SOURCES OF ELECTRICITY PRODUCTION IN ROMANIA AND THE VALUES OF ENVIRONMENTAL INDICATORS ASSOCIATED WITH THE ELECTRICITY PRODUCED AT NATIONAL LEVEL, FOR EACH TYPE OF PRIMARY SOURCE

In accordance with the provisions of the *Energy labelling regulation*, approved by means of ANRE Order no. 61/2016, with subsequent amendments and completions, on the basis of the statements of the electricity producers regarding the total amount of electricity produced, the structure per types of primary energy sources of the electricity production in Romania, as presented below, was calculated.

In 2021, the national average specific values of CO_2 emissions and radioactive waste resulted from electricity generation were 217.24 g/kWh and 0.003 g/kWh, respectively. By reference to these values, electricity suppliers will specify in the labels they will develop whether the electricity they provided to final customers in 2021 had an environmental impact *below/above* the national average.

Based on the data obtained in the development of the national label, the following graph shows the structure of electricity produced in dispatchable and non-dispatchable production units, reported by 711 license holders in what concerns the commercial exploitation of electricity generation capacities, calculated based on conventional and unconventional resource types.



	Structura pe tipuri de surse primare de energie a producției de energie electrică din România	Producția de energie electrică în România în anul 2021 (%)
A.	***Surse convenționale:***	***54,53%***
a1	cărbune	18,20%
a2	nuclear	19,03%
a3	gaze naturale	16,38%
a4	păcură	0,04%
a5	alte surse convenționale	0,88%
B.	***Surse regenerabile:***	***45,47%***
b1	hidroelectric	30,28%
b2	eolian	11,09%
b3	biomasă	1,00%
b4	solar	3,09%
b5	alte surse regenerabile	0,01%

Impact asupra mediului la nivelul României:
Emisii specifice de CO2: ***217,24*** ***g/kWh***
Deşeuri radioactive: ***0,003*** ***g/kWh***

Conform Ordinului preşedintelui ANRE nr. 61/2016, cu modificările şi completările ulterioare - Regulament de etichetare a energiei electrice (www.anre.ro)

Structure per primary energy sources – energy production in Romania; Electricity production in Romania in 2021; Conventional sources: coal, nuclear, natural gas, fuel oi, other conventional sources; Renewable sources: hydro-electric, wind power, biomass, solar, other renewable sources; Environmental impact at Romania's level; specific CO2 emissions, radioactive waste, According to the Order of the President of ANRE no. 61/2016, with subsequent amendments and completions – Energy labelling regulation (www.anre.ro)

The average specific values of CO_2 emissions per type of primary energy source, shown in the following table, are determined as the weighted average of the specific emission achieved and the electricity produced by each producer per type of primary source:

Sursă primară de energie	***Emisii specifice CO2 [g/kWh]***
Cărbune	823,18
Gaze naturale	384,19
Păcură	529,58
Alte surse convenţionale	485,42
Surse regenerabile	0
Media sectorială	***217,24***

Main energy source; Specific CO2 emissions, Coal, Natural gas, Fuel oil, Other conventional sources, Renewable sources, Sector average

7. COMMISSIONS' ACTIVITY

7.1 ELECTRIC POWER

The Commission for the settlement of disputes over access to electricity grids

The Commission has carried out its activity on the basis of the provisions of the *Regulation on the organization and functioning of the commissions for the settlement of disputes/divergences regarding access to networks/systems in the energy field*, approved by means of ANRE Order no. 85/2014. Throughout 2021, 7 requests for dispute resolution were received. Following the analysis of the files and the completion of the steps provided by the Regulation, all disputes were solved, by means of decisions issued by ANRE, which are binding on the parties pertaining to the dispute.

Commission for the settlement of wholesale and retail disputes between electricity market participants

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 between the participants in the electricity and natural gas market*, approved by means of ANRE Order no. 61/2013, with subsequent amendments and completions.

Throughout 2021, 11 requests to resolve disputes on the electricity market were received. Following the analysis of the files and the completion of the steps for the settlement of disputes, the *Commission* issued 2 decisions, the rest of the disputes being concluded by means of agreement of the parties, following hearings, before the issuing of the decisions.

7.2 NATURAL GAS

The Commission for the settlement of disputes over access to natural gas networks

The Commission carried out its activity on the basis of the provisions of the *Regulation on the organization and functioning of the commissions for the settlement of disputes/divergences regarding access to networks/systems in the energy field*, approved by means of ANRE Order no. 85/2014. The Commission received a request to resolve a divergence, but because the subject matter was not within the Commission's powers, that complaint in question, lodged against a network operator, was redirected to the specialized division for settlement.

Commission for the settlement of wholesale and retail disputes between natural gas market participants

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 between the participants in the electricity and natural gas market*, approved by means of ANRE Order no. 61/2013, with subsequent completions.

Throughout 2021, 4 requests were received to resolve disputes regarding the natural gas market. Following the analysis of the files and the completion of the steps for the settlement of disputes, the *Commission* issued 3 decisions, and in what concerns the 4th situation, the request for settlement remained without subject matter, as the situation was solved by means of a sanction applied by the specialized division of ANRE.

III. NETWORK TARIFFS AND INVESTMENT MONITORING

ELECTRIC POWER SECTOR

EVOLUTION OF NETWORK TARIFFS

1. THE EVOLUTION OF THE REGULATORY FRAMEWORK ON METHODOLOGIES FOR SETTING REGULATED TARIFFS IN THE FIELD OF ELECTRICITY THROUGHOUT 2021

1.1. Approval of ANRE Order no. 4/20.01.2021 regarding the amendment of the Methodology for setting the tariffs for the electricity transmission service, approved by means of Order 171/2019, with subsequent amendments and completions

By means of ANRE Order no. 4/2021, the granting of an incentive of 2 percentage points above the regulated approved rate of profitability was approved, for fixed assets financed from own sources, resulting from investment works in the electricity transmission network, carried out in projects co-financed by non-reimbursable European funds and included in the regulated asset base, which will be put commissioned as of February 1st, 2021 and which do not benefit from incentives for projects of common interest under the provisions of Regulation (EU) no. 347/2013 of the European Parliament and of the Council on guidelines for trans-European energy infrastructures, repealing Decision no. 1364/2006/EC and amending Regulations (EC) no. 713/2009, (EC) no. 714/2009 and (EC) no. 715/2009, with subsequent amendments and completions, and the Methodology for the assessment of investments in projects of common interest related to the electricity transmission infrastructure, including the risks related thereto, approved by means of ANRE Order no. 139/2015.

The 2 percentage point incentive above the regulated rate of return aims to encourage investments in electricity grids that help facilitate digitalization, flexibility services and interconnection, in order to ensure compatibility with the requirements of the new European regulatory framework.

1.2. Approval of ANRE Order no. 109/20.10.2021 regarding the amendment and completion of the Methodology for setting tariffs for the electricity transmission service approved by means of Order of the National Energy Regulatory Authority no. 171/2019

By means of ANRE Order no. 109/2021, the completion of the Methodology for setting tariffs for the electricity transmission service with provisions regarding the adjustment of the cost of purchasing electricity related to grid losses (CPT) estimated for year t was approved, by changing the reference price set at the beginning of the fourth regulatory period, in light of the development of electricity market prices and the result of the analysis on the development of tariffs for the current regulatory period.

The amendment was necessary in order to avoid significant corrections in terms of grid losses (CPT) costs, in the context of electricity market price developments, with an impact on the electricity transmission tariff, leading to significant increases in what concerns grid loss costs, compared to expected costs.

Whereas part of the cost of purchasing electricity for grid loss coverage is recovered through the component of introducing electricity into TG networks, for the purpose of ensuring fair treatment in what concerns producers and consumers, the provision on the continued maintenance of this component for the entire regulatory period has been removed.

At the same time, taking into account the analysis of the costs carried out by the transmission system operator for 2020, costs that exceed the forecast set by ANRE at the beginning of the regulatory period, in order to avoid significant corrections for this category of costs, the draft order approved the completion of the methodology with provisions regarding the possibility of accepting a variation of personnel costs forecast for year t, generated by the occurrence of unforeseen conditions, when substantiating and approving the cost forecast.

1.3. ANRE Decision no. 1007/19.05.2021 for the approval of the monitoring templates in what concerns expenses and revenues of the transmission system operator of the national electricity transmission system and their subsequent completion guide

By means of ANRE Decision no. 1007/2021, the templates by means of which the transmission system operator reports relevant data reflecting the latter's activity, namely expenses, revenues, energy balance, were approved. The revision of the templates for monitoring the activity of the transmission system operator and the guide on their completion, approved by means of ANRE Decision no. 1939/2008, was determined by the need to adapt the reports of the transmission system operator to the new amendments of ANRE regulations, more precisely, of the Methodology for setting tariffs for the electricity transmission service, approved by means of ANRE Order no. 171/2019, with subsequent amendments and completions (Methodology I) and of the Methodology for setting tariffs for the system service, approved by means of ANRE Order no. 45/2017, with subsequent amendments.

The following objectives have been taken into account in the review of the monitoring templates: ensuring a necessary, sufficient and conclusive set of information for effective monitoring, increasing transparency in the process of verifying the data used to set the tariffs for the electricity transmission service and the tariff for the system service, ensuring a uniform reporting of information on the expenses and revenues of the transmission and distribution system operators.

1.4. Approval of ANRE Order no. 3/20.01.2021 regarding the amendment and completion of the Methodology for setting tariffs for the electricity distribution service, approved by means of Order of the National Energy Regulatory Authority no. 169/2018

By means of ANRE Order no. 3/2021, the granting of an incentive of 2 percentage points above the regulated rate of profitability, for fixed assets financed from own sources, which will be commissioned from the date of entry into force of the order, if they result from investment works in electricity distribution networks, which are carried out in projects co-financed by non-reimbursable European funds, was approved. This measure is aimed at stimulating the interest of distribution operators in making investments in electricity distribution networks and using alternative methods of financing investments, by directing them toward making investments with the help of projects to attract non-reimbursable European funds. Also, the risks of distribution system operators related to the implementation of projects co-financed by non-reimbursable European funds were taken into account.

The incentive of 2 percentage points above the regulated rate of return aims to encourage investment in electricity distribution networks, in order to ensure compatibility with the requirements of the new European regulatory framework, but also to maintain this segment of activity in line with the general trends of the energy transition that put distribution systems at the heart of the transformation of the energy sector.

It should be noted that the methodology for setting tariffs for the electricity distribution service represents an incentive and the measure is in accordance with the

objectives set out in Article 2 of the *Methodology*, as well as with the principles underlying the establishment of regulated tariffs in the electricity sector, Article 79 (4) (f) of the *Law*.

1.5. Approval of ANRE Order no. 86/30.06.2021 regarding the amendment and completion of the Methodology for setting tariffs for the electricity distribution service by operators other than transferor distribution operators, approved by means of Order of the National Energy Regulatory Authority no. 102/2016

ANRE approved Order no. 86/2021 for the transposition into the secondary legislation of the legislative amendments introduced by Law no. 155/2020 for the amendment and completion of the Energy and natural gas law no. 123/2012 and for the amendment and completion of other normative acts.

Thus, it has been provided that, in the situation of the electricity distribution service provided to users of electric lines dedicated exclusively to railway traction, for which the area of electricity supply cannot be determined with certainty, the cost of the electricity distribution service provided by the upstream transferor distribution operator to be paid by each user is to be determined on the basis of a method agreed upon by the distribution operator with the users of the rail contact network, and, until a method is agreed, the distribution system operator of the railway contact network and its users shall apply a method established on the basis of the principles laid down in the *Methodology*.

Clarifications were introduced regarding the documents required to be submitted to ANRE for the approval/revision of electricity distribution tariffs, when the operator of a closed distribution system, holder of a confirmation decision issued by ANRE, requests the approval of tariffs for the distribution service in accordance with the methodology.

At the same time, provisions were introduced to clarify the situations in which the decisions to approve distribution tariffs cease to be valid, as well as the situations in which ANRE can invalidate the distribution tariffs approved and practiced by a distribution operator.

Therefore, a 5-year decision approving distribution tariffs was foreseen, for better predictability, and in a similar way to the duration of a regulatory period for which distribution tariffs are projected for transferor distribution operators. It was also foreseen that the decision approving the tariffs would cease to be valid in the following situations: based on the substantiated request of an operator, at the termination of the right to hold exploited energy capacities, at the withdrawal of the electricity distribution license or, in the case of a distribution operator who is not required to hold a license for the distribution of electricity, in the event of the latter's bankruptcy.

Considering the multitude of legislative and regulatory changes that occurred between 2000 and 2021, by means of which most of the regulations and legal provisions that formed the basis for issuing the decisions approving the distribution tariffs were repealed or amended, it was disposed for ANRE to issue decisions to terminate the legal effects of the decisions approving distribution tariffs older than 5 years, issued before the entry into force of this order, with the prior notification of the distribution operators in question.

1.6. Approval of ANRE Order no. 101/30.09.2021 regarding the amendment and completion of the Methodology for setting tariffs for the electricity distribution service approved by means of Order of the National Energy Regulatory Authority no. 169/2018

ANRE approved Order no. 101/2021 in order to transpose into secondary legislation the provisions of Art. 51 par. (3^2), par. (3 ^ 4) and par. (3^5) of the *Law* and to harmonize the ANRE regulations, more precisely the provisions of the *Methodology*, with the provisions of the *Regulation on the connection of users to electrical grids of public interest, approved by*

means of ANRE Order no. 59/2013, with subsequent amendments and completions, and the *Procedure regarding the connection to the public interest electrical grids of consumption sites belonging to non-household final customers users through connection installations with lengths up to 2,500 meters and household customers, approved by means of ANRE Order no. 17/2021.*

Order no. 101/2021 provided the recognition in the tariffs for the electricity distribution service, as well as the method of calculating the refundable value, of the works related to design and execution of the connection installations referred to in Article 44 item 4 letter b) of the *Regulation*, which are paid by the user and which the operator is to reimburse in instalments, in accordance with the provisions of Article 12 (8) of the *Procedure*. In correlation, the express indication according to which the fixed assets in question are not included in the RAB was introduced, as the *Methodology* provides for the general rule that fixed assets financed from financial contributions, regardless of their source, are not included in the RAB. The proposed measures take into account the fact that said fixed assets are owned by the operator and are registered as entries into the management of fixed assets at the date of the commissioning, date on which the costs of the works are borne exclusively by the user.

Having regard to the observations of certain distribution system operators and to the analysis of the average earnings data of all distribution system operators, the *Methodology* was supplemented with a provision regarding the conditions for the acceptance by ANRE of a variation of the personnel costs referred to in Article 30 (i) and (L) forecast for the year t + 1, generated by the occurrence of unforeseen conditions when substantiating and approving the cost forecast.

Having regard to the evolution of electricity market prices showing a significant increase from the level forecast in 2019 for the fourth regulatory period, and to the comments of distribution system operators, the completion of Article 94 of the *Methodology* was approved, namely a provision establishing that, in order to avoid further recording of a significant level of corrections, at the justified request of the distribution system operator, in the regulated income of the year t+1, a value corresponding to the adjustment of the cost with the regulated grid losses forecast for the year t+1 may be included, by changing the reference price, depending on the evolution of prices on the electricity market and the result of the analysis on the evolution of tariffs for the current regulatory period.

Furthermore, taking into account that the steep price evolution in the electricity market constitutes an element with a significant impact on the revenues of distribution system operators due to their obligation to purchase electricity to cover grid losses, it was approved to complete Article 15 of the *Methodology* with a provision that allows ANRE to correct the projection of distribution tariffs for a regulatory period or for a year, with the prior notification of the operator, in case of significant variations in prices on the electricity market, which leads to a significant change in the costs of the distribution service.

2. APPROVAL OF REGULATED TARIFFS FOR PUBLIC INTEREST POWER GRIDS THROUGHOUT 2021

The regulated network tariffs, which ANRE approves in the field of electricity according to the legal provisions, are charged by the network operators on the basis of the contracts regulated for the connection to the network, that is to say for the use of the network, i.e. for the transmission and system service and for the electricity distribution service.

2.1. Tariffs for the electricity transmission service

In the fourth quarter of 2021, in accordance with the provisions of the Methodology for setting the electricity transmission tariffs approved by means of ANRE Order no. 171/2019 (Methodology I), with subsequent amendments and completions, ANRE analysed the request of the transmission system operator regarding the setting of the corrections related to the year 2020, for the approval of the electricity transmission tariffs applied as of January 1st, 2022.

As of January 1st, 2021, the costs and revenues of the functional system service have been included in the electricity transmission service. Thus, the ex-post corrections for 2020 were calculated separately for the regulated activities of transmission and functional system services, given that different methodologies for setting tariffs and implicitly separate tariffs for these activities were applied in 2020.

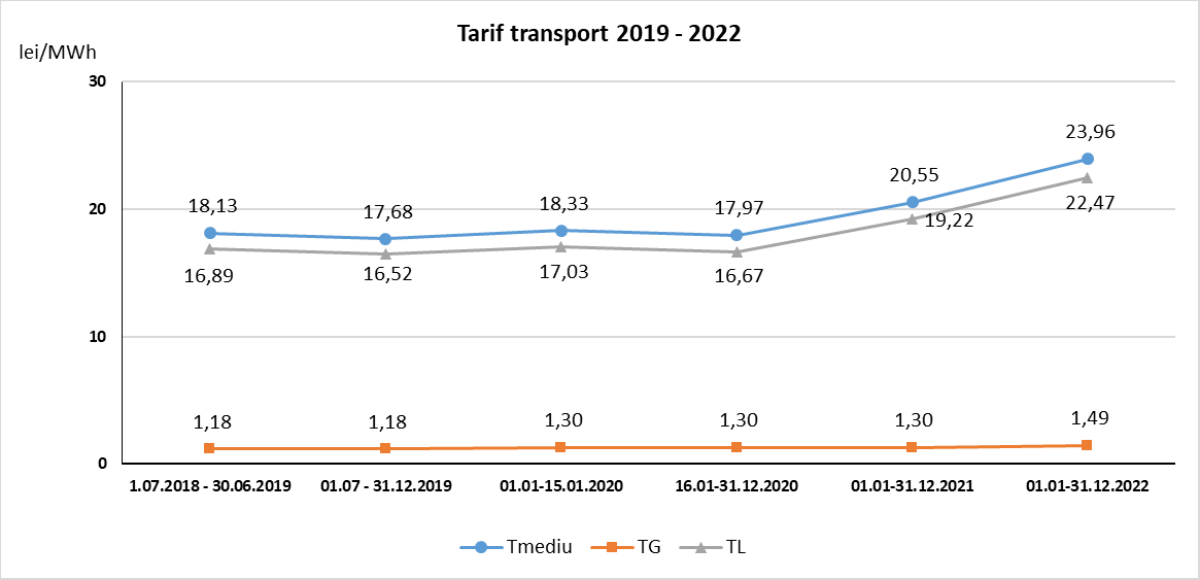
Thus, by means of ANRE Order no. 124/25.11.2021, the following tariffs applicable in 2022 were approved:

Specification:	M.U.	Level approved
Average transmission rate	RON/MWh	23.96
Transmission tariff - the component for introduction of electricity into the network (T_G)	RON/MWh	1.49
Transmission rate - the component for extracting electricity from grids (T_L)	RON/MWh	22.47

Compared to the tariffs applied in 2021, the average electricity transmission tariff shows an increase of 16.59%, and the transmission tariffs for the component of introducing electricity into the grid (T_G) and extracting electricity from the grids (T_L) revealed an increase of 14.62% and 16.91%, respectively.

The increase in what concerns the approved tariffs was mainly determined by the adjustment of the cost of purchasing electricity related to grid losses (CPT) forecast for 2022, by changing the reference price set at the beginning of the fourth regulatory period, depending on the evolution of prices on the electricity market, which showed a significant increase.

In addition, the increase in the electricity transmission tariff, the component for extracting electricity from networks, is due, to a lesser extent, to the level of positive corrections related to the functional system service for 2020, determined by the difference between the values forecast for 2020 and those actually achieved. The evolution of the average transmission tariff, the transmission tariff - the component for the introduction of electricity into grids and the transmission tariff - the component for the extraction of electricity from grids between 2019 and 2022, expressed in nominal terms of each year, is reflected in the following figure:



Transmission tariff 2019 – 2022, RON/MWh, Taverage

2.2. System service tariff

The tariff for the system service is determined on the basis of the Methodology for setting the tariffs for the system service, approved by means of ANRE Order no. 45/2017, with subsequent amendments and completions (Methodology II).

We mention that, starting with January 1st, 2021, the system service tariff covers only the costs of purchasing power reserves from producers.

In accordance with the provisions of Methodology II, as a result of the analysis of the costs and revenues related to the system service, transmitted by the transmission system operator and the results of the tenders posted on the latter's website, ANRE has found that the condition of revision of the tariff for the system service approved for the period July 1st, 2020 – June 30th, 2021 has been fulfilled.

Having regard to the above and to the amendment of Methodology II as regards the date of commencement of the tariff period, so as to correspond to a calendar year, the tariff for the system service approved by means of ANRE Order no. 10/14.02.2021 at the level of 10.82% was applied for the period March 1st – December 31st, 2021.

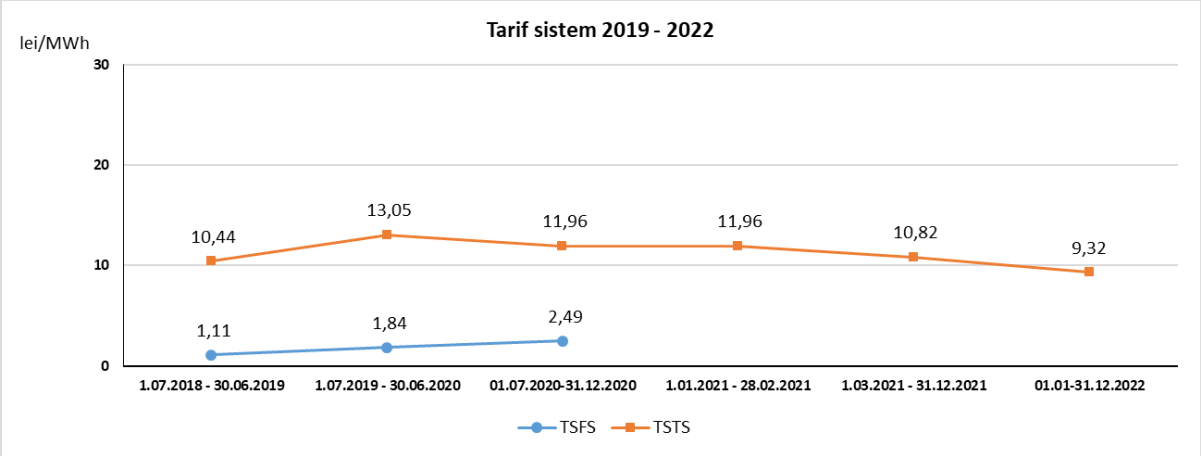
The approved tariff presents a 9.53% discount, when compared to the previously approved tariff.

In the fourth quarter of 2021, in accordance with the provisions of Methodology II, ANRE analysed the request of the transmission system operator regarding the correction of the closure period January – February 2021, namely the cost – income and profit analysis of the period, as well as the establishment of the cost and revenue forecast and the tariff for the system service for 2022.

Thus, by means of ANRE Order no. 124/25.11.2021, a tariff for the system service applicable in 2022 of 9.32 RON/MWh was approved.

Compared to the previously approved tariffs, the tariffs approved in 2021 for 2022 present a reduction determined by the decrease in the purchase prices of the reserves necessary to ensure the safety in operation of the national electricity system, as well as the quantities of reserves purchased, compared to those estimated.

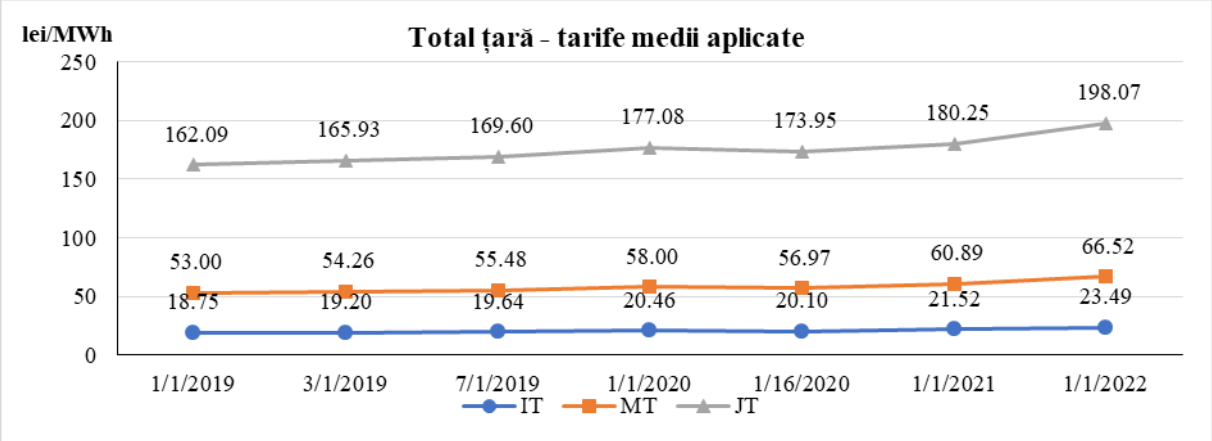
The following figure shows the evolution of the system service tariff for the period 2019-2022, expressed in nominal terms for each year, reflecting changes in the system service tariff components provided for by the regulatory framework.



System tariff 2019 – 2022, RON/MWh

2.3. Tariffs for the electricity distribution service

The following figure shows the evolution of the average electricity distribution tariffs **applied** in the period 2019-2022 to final customers, depending on the voltage levels at which their consumption sites are connected to the distribution networks, expressed in nominal terms:



Country total – average applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage

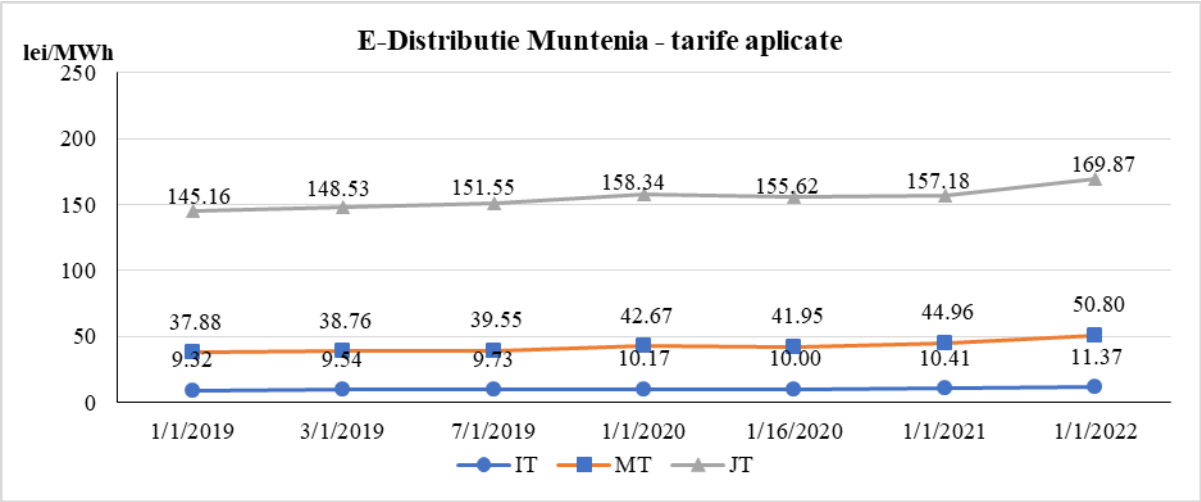
In the fourth quarter of 2021, ANRE analysed the substantiated requests of the operators and approved, by means of **ANRE Orders no. 118 up to 123 of November 25th, 2021, the specific tariffs for the electricity distribution service, applied by the transferor distribution operators as of January 1st, 2022.**

Thus, the average specific tariffs per country, per voltage levels, calculated as a weighted average of the specific tariffs approved for the transferor electricity distribution operators applicable from January 1st, 2022 with the distributed quantities of electricity are as follows:

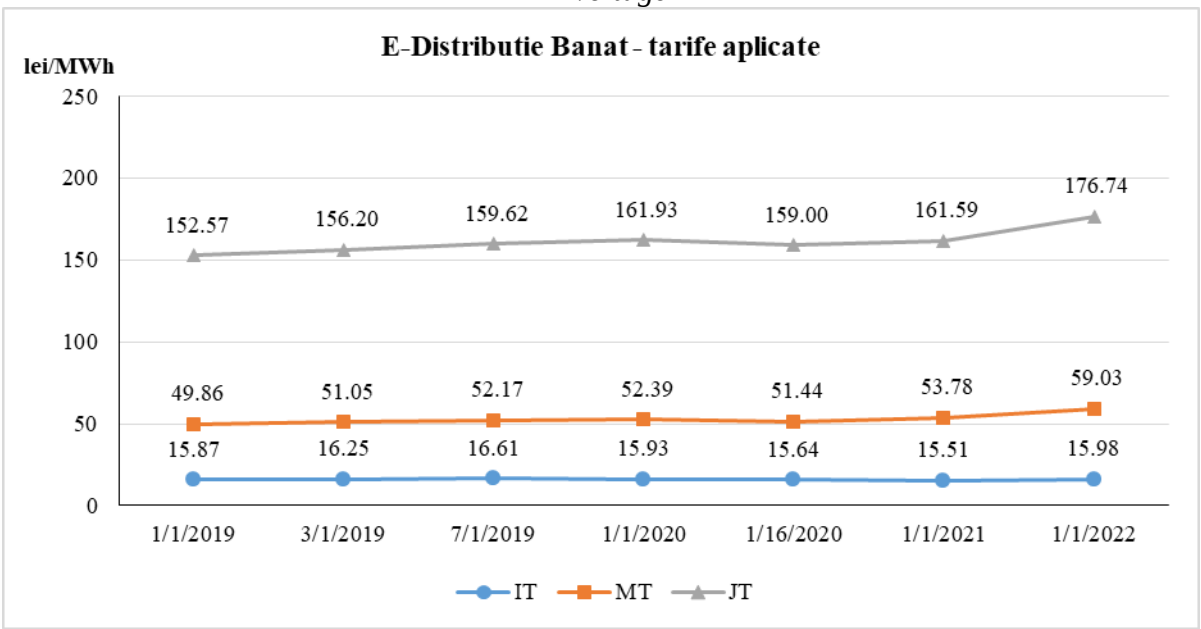
- Average specific tariff for high voltage – 23.49 RON/MWh,
- Average specific tariff for medium voltage – 43.03 RON/MWh,
- Average specific tariff for low voltage – 131.55 RON/MWh.

Compared to the specific average tariffs applicable as of January 1st, 2021, average tariffs increased by 9.16 % for high voltage, 9.29 % for medium voltage and 10.21 % for low voltage, which also applies to household customers. The increase in the approved tariffs was mainly determined by the adjustment of the cost of purchasing electricity related to grid losses (CPT) forecast for 2022, by changing the reference price set at the beginning of the fourth regulatory period, based on the evolution of prices on the electricity market, which showed a significant increase as of July 2021.

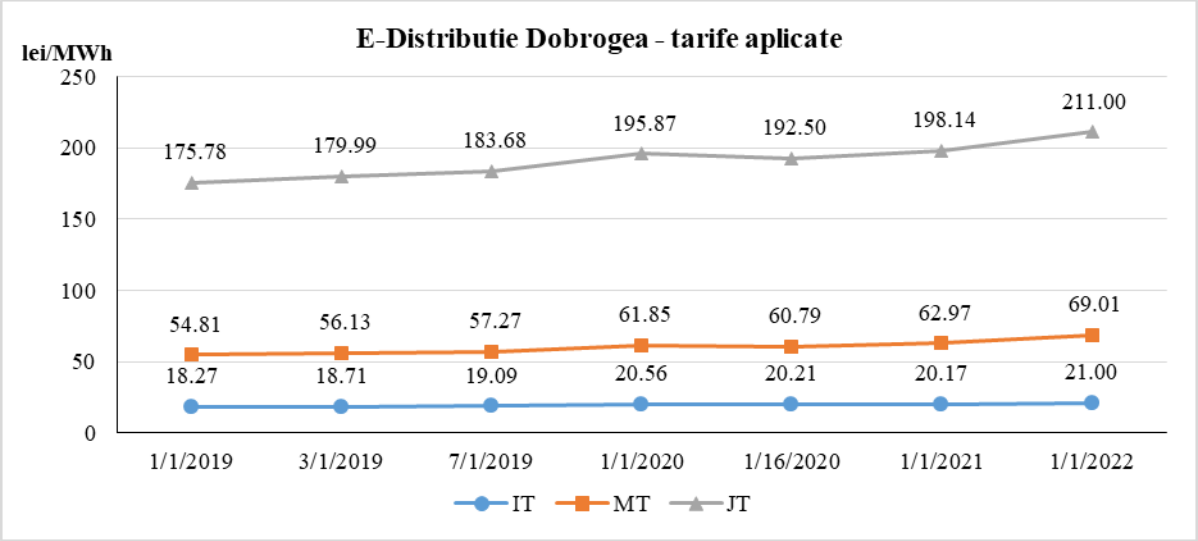
The following figures show the evolution of the distribution tariffs **applied** by each transferor distribution operator in the period 2019-2022, in which the values are expressed in nominal terms and result from the summation of the specific tariffs approved by ANRE, representing the tariffs that final customers pay, according to the voltage level to which their installations are connected.



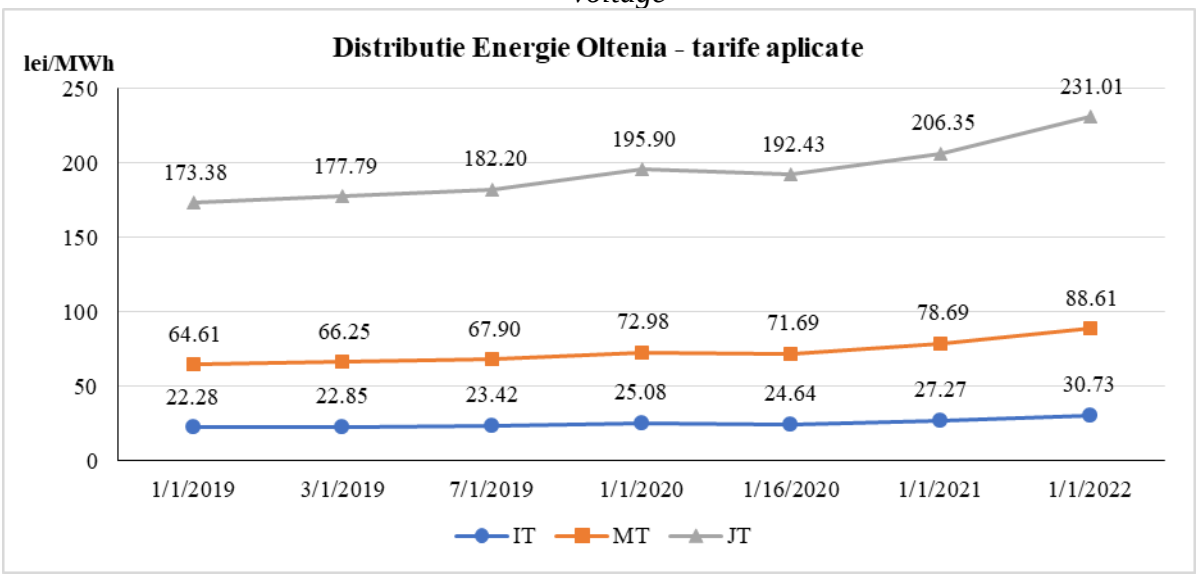
E-Distribuție Muntenia – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage



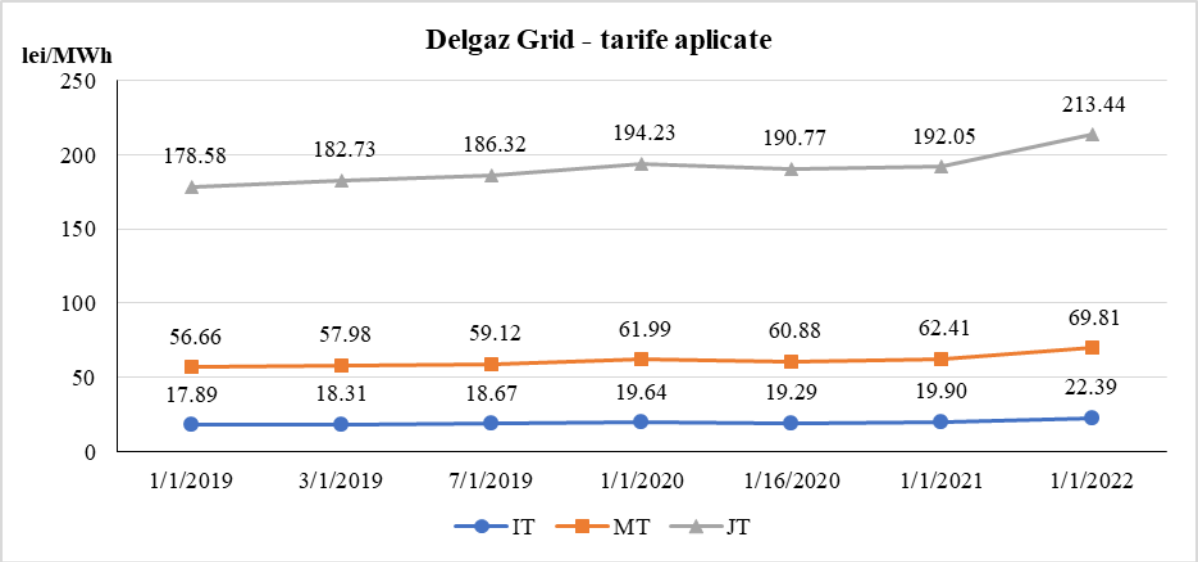
E-Distribuție Banat – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage



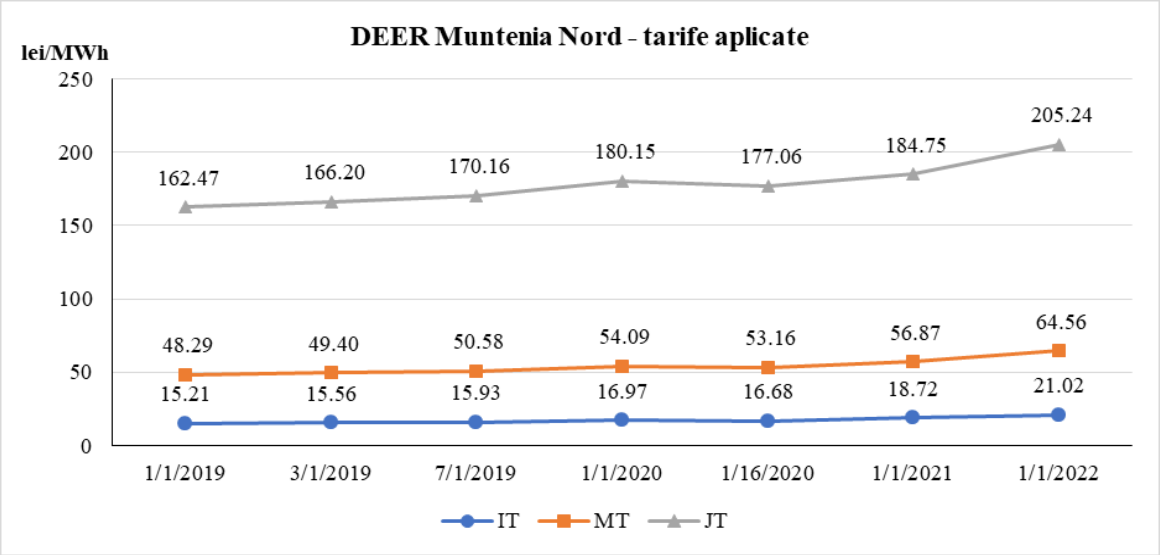
E-Distribuție Dobrogea – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage



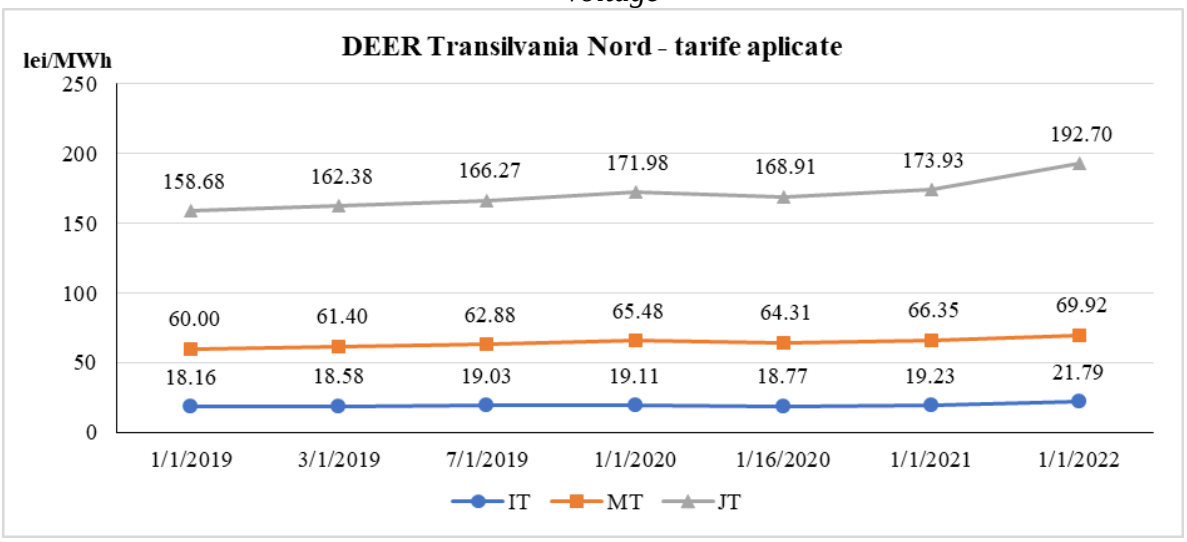
E-Distribuție Oltenia – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage



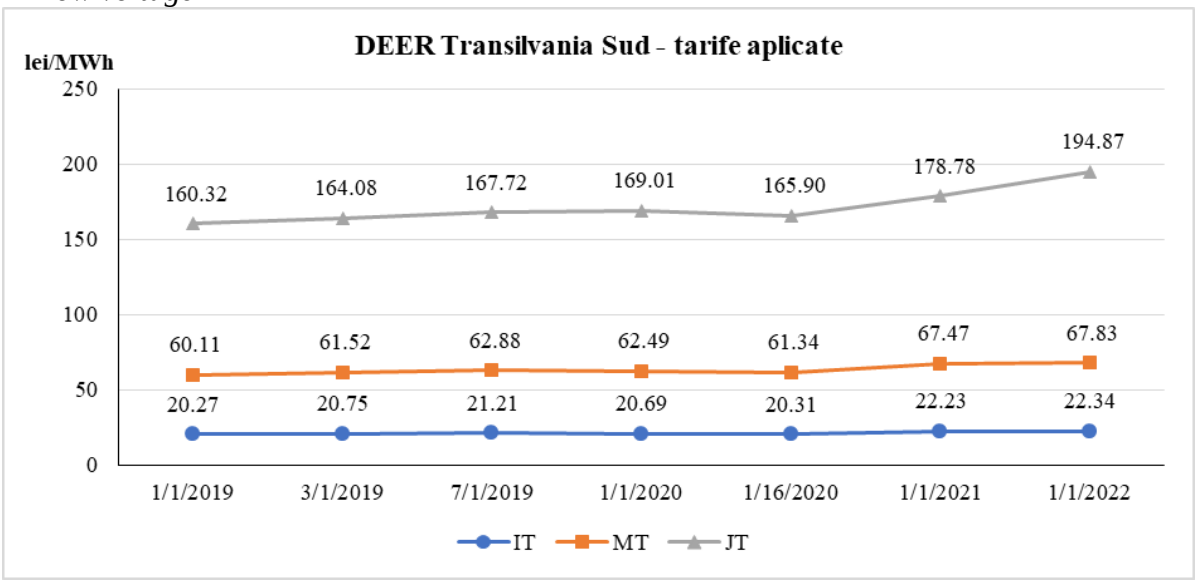
Delgaz Grid – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage



DEER Muntenia Nord – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage

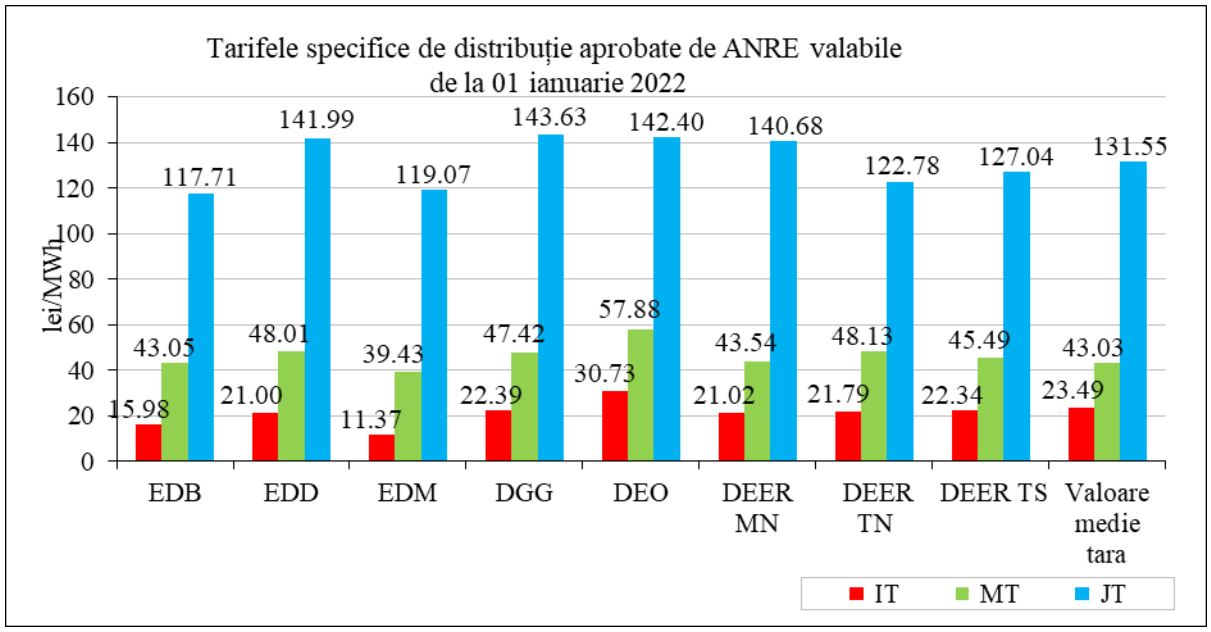


DEER Transilvania Nord – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage



DEER Transilvania Sud – applied tariffs, RON/MWh, High voltage, Medium voltage, Low voltage

The comparison of the specific distribution tariffs approved by ANRE with applicability as of 01.01.2022 for the eight transferor electricity distribution operators is shown in the following figure, in which the values are expressed in the nominal terms of 2022:



Specific distribution tariffs approved by ANRE, valid as of January 1st, 2022, RON/MWh, Average country value, High voltage, Medium voltage, Low voltage

2.4. Tariffs for the electricity distribution service provided by distribution operators, other than transferor operators

Tariffs for the electricity distribution service provided by distribution operators other than transferor operators are approved by ANRE at the request of distribution operators who own, operate, maintain and develop distribution networks within industrial parks and platforms or within property-delimited areas and have connected users – beneficiaries of the distribution service.

The tariffs are determined on the basis of the *Methodology for establishing the tariff for the electricity distribution service by operators other than the transferor distribution operators, approved by means of ANRE Order no. 102/2016,* with subsequent amendments and completions.

During 2021, seven decisions on the approval of tariffs for the electricity distribution service provided by distribution system operators other than transferor operators and two decisions to terminate the applicability of decisions approving such tariffs were approved.

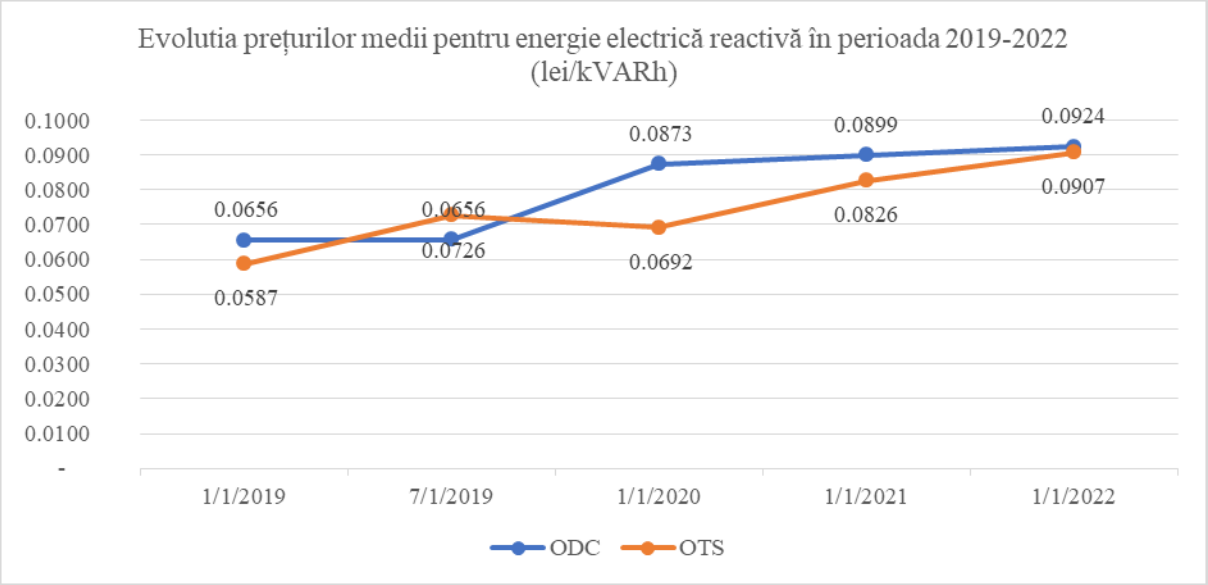
2.5. Regulated prices for reactive electricity

By means of ANRE Order no. 33/2014, with subsequent amendments and completions, the *Methodology for establishing the obligations for payment of reactive electricity and the regulated price for reactive electricity* was approved, which entered into force on January 1st, 2015. In accordance with the provisions of the Methodology, the regulated price of reactive electricity shall be set at the level of 30 % of the regulated purchase price of active electricity to cover the grid losses of the electricity grids held by the transmission system operator and the transferor distribution operators, respectively.

The regulated price for reactive electricity applied in 2022 by the transmission system operator was approved by means of ANRE Order no. 124 of November 25th, 2021 at the level of 0.0907 RON/kVARh.

The regulated prices for reactive electricity applied by the operators of the electricity distribution networks in 2022 were approved by means of ANRE Orders no. 118 up to 123 of November 25th, 2021.

The following figure shows the evolution of the approved average reactive electricity prices for transferor distribution system operators (DSO) and transmission system operator (TSO) over the period 2019-2022.



Development of average reactive electricity prices in 2019-2022 (RON/kVARh), DSO, TSO

3. Monitoring of investments in electricity networks (network expansions, investment plans, smart grids, correlation between 10-year plans, PCI and national plans)

3.1. The evolution of the regulatory framework for monitoring the technical status of public interest electricity grids during 2021

The regulatory framework on the basis of which ANRE fulfilled, in 2021, its legal duties of monitoring investment works and maintenance works for the operation of the electrical networks under safe, reliable and efficient conditions, as well as the technical status of the electrical networks of public interest, has been supplemented by means of the approval of the following regulations:

3.1.1. ANRE Order no. 19/16.03.2021 amending and completing the Procedure regarding the substantiation and criteria for approval of the investment plans of the transmission system operator and of the electricity distribution operators, approved by means of Order of the National Energy Regulatory Authority no. 204/2019

In accordance with the provisions of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, the electricity distribution operators have the obligation to ensure the financing and execution of the design and execution works of the installation for the connection of the household / non-household final customer. The deadline for connection is maximum 90 days from the date of obtaining the building permit. The design and execution works of the final customer connection installation, for which the DSO has the obligation, according to the legal provisions in force,

to ensure financing and conclusion, are carried out in addition to the annual investment plan assumed by each distribution operator at the beginning of the regulatory period. Thus, conditions are provided for carrying out the investment works in the electrical networks provided by the distribution operators in the development plans communicated to ANRE at the beginning of the regulatory period, in order to improve safety in operation, the performance of the distribution service, the continuity of the electricity supply of the users, as well as the long-term ability to reasonable meet requests for connection to the electricity distribution network.

Clarifications were introduced regarding the possibility of including in the RAB, at the request of distribution operators and with the approval of ANRE, fixed assets commissioned during a regulatory period, starting with the next regulatory period, at the remaining value to be amortized.

In accordance with the provisions of Article 5 (1) of GEO no. 38/2020, on the use of documents in electronic form at the level of public authorities and institutions, the obligation to submit investment plans in written format by the NO has been removed and their transmission only in editable electronic format and electronically signed PDF was stipulated.

3.1.2. ANRE Order no. 53/23.06.2021 regarding the amendment and completion of the Methodology for the assessment of the financing conditions of investments for the electrification of localities or for the extension of the electricity distribution networks, approved by means of Order of the National Energy Regulatory Authority no. 36/2019

Additions were introduced to extend the applicability of the Methodology to areas outside localities, as well as to instances where an association of administrative-territorial units requests the distribution operator to develop the public interest electricity grid, in order to ensure connection based on regional development and urban planning plans.

In case the public authority/user/user group decides to fully finance the investment, the provision that the technical design and specification is carried out by the public authority/user/user group, with an economic operator certified by the competent authority, was added.

A provision has been introduced that stipulates that the distribution operator must have a representative in the commission for the acceptance of works fully financed by the public authority/user/user group, who will sign the acceptance minutes for commissioning, in order to avoid further misunderstandings that may occur at the time of the takeover of the networks by the distribution system operator.

For situations where the public authority/user/user group decides to fully finance the investment, the deadline for the return of the operator's co-financing quota and the deadline for the operator to take ownership of the network elements related to the returned quota have been explicitly introduced.

Clarifications have been made regarding the amount of the quota returned to the public authority/user/user group, if they decide to fully finance the investment, by setting the rate on the basis of the minimum between the value of the works according to the offer of the transferor distribution operator and the value of the carried out works, specified in the acceptance minutes of the commissioning of the works.

Based on the technical project and the specification, the public authority/user/user group perform the work on the development of the electricity distribution network for the electrification of localities or for the extension of the energy distribution networks with a certified economic operator.

3.2. Monitoring of investments in power grids

The monitoring of investments in power grids is presented in the report on the achievement of performance indicators for transmission, system and electricity distribution services and the technical status of the transmission and distribution networks - 2021 - published on the ANRE website at: https://www.anre.ro/ro/energie-electrica/rapoarte/rapoarte-indicatori-performanță.

3.2.1. Monitoring of investment projects in cross-border interconnection capacities

Romania is part of priority corridor no. 3 on electricity "North-South interconnections on electricity from Central Europe and South-Eastern Europe "NSI East electricity": Interconnections and internal lines in North-South and East-West directions for completion of the internal market and integration of generation from renewable sources".

In Regulation (EU) no. 347/2013, the criteria for the selection and assessment of projects of common interest (PCI) have been defined to be eligible for inclusion by the European Commission on the following Union lists; proposals for projects of common interest should form part of the most recent electricity network development plan developed by ENTSO-E.

The value of the electricity transmission network interconnection capacity (RET) is currently 10-11 %, following the update of the national electricity system's installed powers of the groups included in the commercial exploitation licenses and the increase of the NTC values on the border with Bulgaria from 25-300 MW to 900 MW, by removing internal congestion in the transmission network of the Bulgarian TSOs, ESO-EAD.

As regards the achievement of the 15 % interconnection target for 2030 proposed in the European Commission Communication no. 330/2014 (European Energy Strategy) and operationalized by the European Commission Communication no. 718/2017 on strengthening European energy networks, this should be achieved mainly through the implementation of projects of common interest and the implementation of other projects included in the RET Development Plan.

The following common interest projects are included in the fourth European list of projects of common interest (CIP) in force in 2021:

Project 138 "Black Sea Corridor", consisting of:

- Overhead electricity lines (LEA) 400 kV d.c. Smârdan – Gutinaş;
- Overhead electricity lines (LEA) 400 kV d.c. Cernavodă - Stâlpu, with an input/output circuit in Gura Ialomiţei;

Project 144 "Mid Continental East Corridor", consisting of:

- Overhead electricity lines (LEA) 400 kV d.c. Reşiţa (RO) – Pancevo (Serbia);
- Overhead electricity lines (LEA) 400 kV Porţile de Fier – Reşiţa and extension of the 220/110 kV Reşiţa station through the construction of the new 400 kV station;
- switch to 400 kV of overhead electricity lines (LEA) 220 kV d.c. Reşiţa –Timişoara – Săcălaz – Arad, including the construction of the 400 kV Timişoara and Săcălaz stations.

On the basis of the regular reports of TSOs, in accordance with the provisions of Article 45(3) of the *Procedure on the substantiation and criteria for the approval of the investment plans of the transmission system operator and of the electricity distribution operators*, approved by means of ANRE Order no. 204/2019, with subsequent amendments and completions, the status of projects of common interest included in the RET Development Plan for the period 2020-2029, at the end of 2021, is as follows:

PDRET code 2020-2029	TYNDP code 2018	PCI code	Description	Programmed Commissioning	Outstanding steps
F.4	138,275	3.8.5	Overhead electricity lines (LEA) 400 kV Smârdan-Gutinaş	2024	Issuance of the Government Decision for the transfer of the right of administration and change of use; Issuance of the Government Decision for temporary or definitive removal from agricultural circuit; Issuance of the Government Decision for the temporary or definitive removal from the National Forest Fund; Completion of the expropriation procedure; Implementation of the works proposed in the 2020-2029 Development Plan: 2022-2024
F.5+ F.6+ F.7+ F.8	138,273	3.8.4	Overhead electricity lines (LEA) 400 kV Cernavodă – Stâlpu, with an input/output circuit in Gura Ialomiţei station	2023	Completion of works for all projects within the cluster "Internal line between Cernavodă and Stâlpu" Implementation of the works proposed in the 2020-2029 Development Plan: 2020-2023.
-	144,238	3.22.1	Overhead electricity lines (LEA) 400 kV Reșita – Pancevo	2018	The execution works were completed on 30.03.2018. Commercial exploitation will start after the completion of the 400kV Reșița station (for primary equipment, the execution contract was signed on 03.11.2020; the technical project is completed, the building permit was obtained, the execution contract for secondary equipment was signed in 2018, with the date of entry into force 03.11.2020)
F.1.1+ F.1.2	144,269	3.22.2	Overhead electricity lines (LEA) 400 kV Porțile de Fier – Anina – Reșiţa	2025	Implementation of the works proposed in the 2020-2029 Development Plan: 2020-2025.
F.2.1+ F.2.2	144,270	3.22.3	Switching to the 400 kV voltage of the overhead electricity lines (LEA) 220 kV Reșiţa – Timişoara/Săcălaz, including the construction of the 400 kV station Timişoara	2025	Completion and submission of the application file to the Ministry of Energy-ACPIC, in accordance with the provisions of EU Regulation 347/2013, Article 10 item 1**;** Obtaining building permits; Obtaining the site approval GD and triggering the procedure of expropriation of private property buildings that constitute the corridor of expropriation of the public utility work of national interest – documentation is in progress; Execution of overhead electricity lines (LEA) works 400 kV Reșița – Timișoara/Săcălaz proposed in the RET Development Plan 2020-2029: 2021-2025; Execution of works in 400kV and 110kV

					Timișoara stations proposed in the RET Development Plan 2020-2029: 2020-2025.
F.3.1+ F.3.2+ F.3.3	144,270	3.22.4	Switching to the 400 kV voltage of overhead electricity lines (LEA) 220 kV Arad – Timișoara/Săcălaz, including the construction of the 400 kV Săcălaz station and the extension of the Arad station	2027	The technical project and specification are undergoing pre-approval; Permits and agreements required in urban planning certificates are being obtained; Implementation of the works proposed in the 2020-2029 Development Plan: 2022-2027.

The European Commission Delegated Regulation no. 2022/564 of 19.11.2021 reviewed the European list of projects of common interest. Project 138 "Black Sea Corridor" is no longer on the list of projects of common interest, considering the advanced stage in which this project finds itself. In this new revision of the list of projects of common interest, the CARMEN HU-RO ("Carpathian Modernized Energy Network") project from the Smart Grid Development thematic area, was introduced, a project supported by Delgaz Grid SA and CNTEE Transelectrica SA.

3.2.2. Monitoring the implementation of the 10-year electric transmission network development plan

The RET development plan is updated every two years, so that, at the time of the present activity report, the RET development plan for the period 2020-2029, which was approved by means of ANRE Decision no. 3387/9.12.2020, is in force, document published on the website of CNTEE Transelectrica SA, available at: https://www.transelectrica.ro/ro/web/tel/planului-de-dezvoltare-ret-2020-2029 .

The categories of works included in the RET Development Plan for the period 2020-2029 in force and their status at the end of 2021 are presented in the following table:

Investments category	Stage of investment works in PDRET 2020-2029			
	Total works	Completed	In due time	Delayed
A - Reengineering of existing RET	55	6	44	5
C - Safety of consumption supply	8	2	5	1
D - Integration of production from new plants - Dobrogea and Moldova	8		6	2
E - Integration of production from plants - other areas	2		2	
F - Increasing the interconnection capacity	14	1	13	
G - Integrated operational management platform of SEN + Replacement EMS SCADA Areva system components + Replacement	2	1	1	

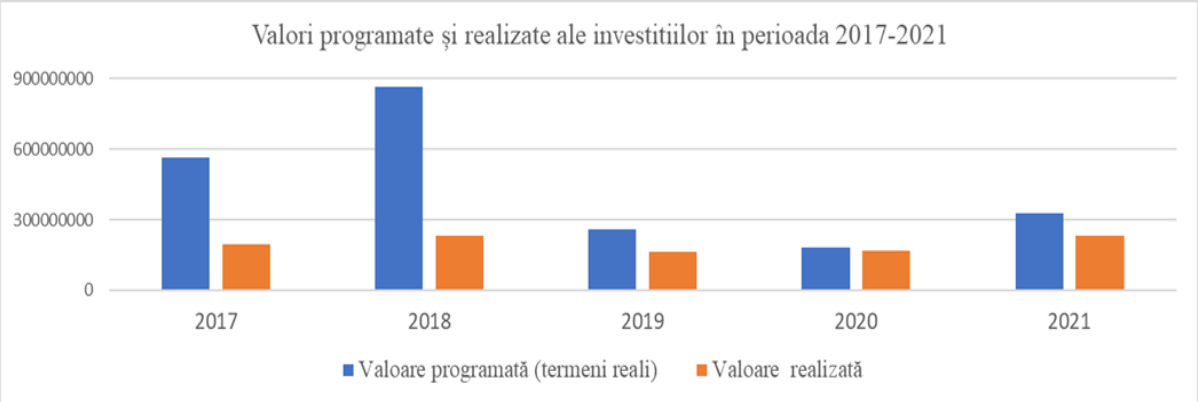
support components of the Balancing market platform				
H - Metering and data management system for measuring electricity on the wholesale market	1		1	
J - Management of information and telecommunications systems	1		1	
K - Critical infrastructure	1	1		
TOTAL	92	11	73	8

3.2.3. Monitoring of the implementation of the investment plan of the TSOs for 2021

The evolution of the amounts of investments planned/achieved from own resources in the period 2017-2021 is presented as follows:

	2017	2018	2019	2020	2021
Plan [RON million][1)]	587.3	887.1	259.9	179.9	323.5[1)]
Commissioning 2020 [RON million]	197.3	235.7	165.4	169.2	230.9[2)]

Note:
1) Value in nominal terms of the respective year; for 2021, the estimated value of the period investment plan (RON 292.987 million) was updated with the cumulative inflation of 2020 and 2021, 2.06% and 8.19%, respectively;
2) The reported value includes projects on additional investment lists (recoveries from PI2020 – RON 1.7 million and additional investments – works made in advance from PI2022 – RON 14.6 million)



Programmed and achieved investment values in 2017-2021, Programmed value (actual terms), Achieved value

According to the provisions of the *Procedure regarding the substantiation and the criteria for approval of the investment plans of the transmission system operator and electricity distribution operators*, approved by means of ANRE Order no. 204/2019, with subsequent amendments and completions, the TSO has the obligation to achieve, in 2021, from own sources, investments that result in fixed assets belonging to the network amounting to at least 95% of their total forecasted value included in the plan approved by ANRE, with the possibility of recovering the delayed investments in the first 6 months of 2022.

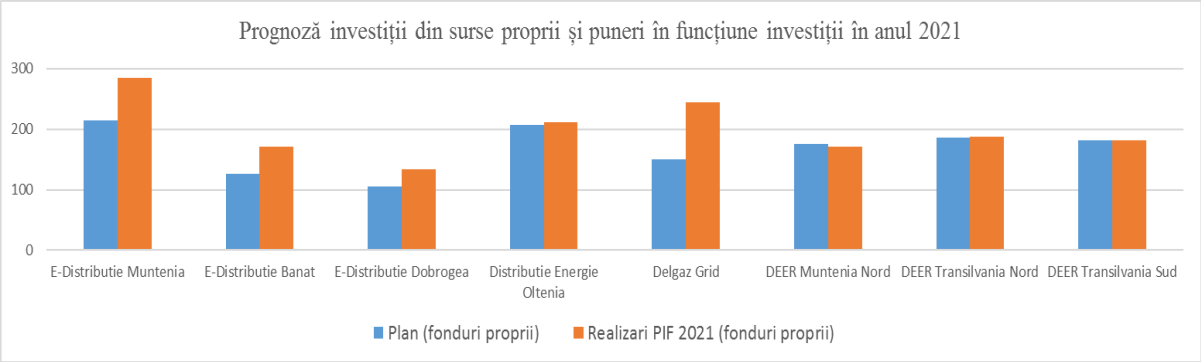
The main works carried out in 2021 were reengineering works of the 400/110/20 kV Domnești station, replacement of AT 200 MVA in stations 220/110/20 kV Vetiș and 220/110/20 kV Cluj Florești, reengineerings in stations 220/110/20 kV Ungheni, 400/110/MT Smârdan, 220/110 kV Craiova North, 110 kV Bacău South, 220/110 Iaz and 400 kV mobile cell installations for BC connection in Sibiu South and Bradu-Sibiu South stations.

3.2.4. Monitoring the implementation of the 2021 DSOs' investment plans

Establishing the need for investment and maintenance work in the electrical distribution networks at a level sized in such a manner as to ensure safety, reliability and efficiency is the sole responsibility and legal obligation of the distribution system operators. They establish investment and maintenance programs based on analysis and assessments carried out in the framework of the asset management activity.

The value of investments made from own sources by transferor distribution operators and commissioned in 2021 is as follows:

	E-Distributie Muntenia	**E-Distributie Banat**	**E-Distributie Dobrogea**	**Distributie Energie Oltenia**	**Delgaz Grid**	**SDEE Muntenia Nord**	**SDEE Transilvania Nord**	**SDEE Transilvania Sud**	**TOTAL**
Plan [million RON]	215.1	126.9	104.9	206.6	149.9	175.7	186.7	186.7	1,352.6
Commissioning 2021 [million RON]	285.4	170.5	133.1	211.1	245.0	170.9	187.3	181.0	1,584.2



Estimation of own funds' investments and commissioning of investments in 2021

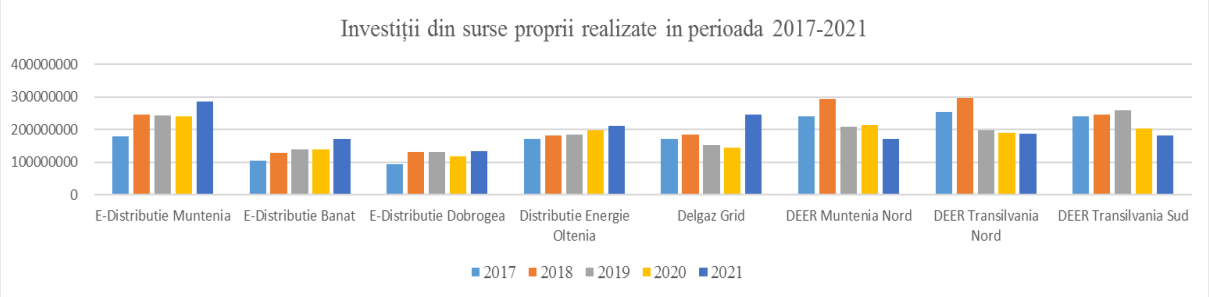
The type of work carried out in the electrical distribution networks in 2021 is shown in the following table:

Type	**Category name**	**Total value completed [RON]**	**of which own sources:**
	TOTAL, of which:	2,207,662,586	1,584,240,340
A	ESSENTIALS - Total (A1+A2+A3+A4)	310,018,931	304,454,473
A1	Reengineering and modernization of existing lines/stations and stations that are overloaded, considered work places with special conditions in terms of labour security, which have inadequate technical parameters	235,199,102	229,634,645
A2	Replacement of existing equipment that is physically and morally worn, for which there are no spare parts and for which proper maintenance work can no longer be carried out, replacement of equipment in order to comply with environmental conditions	74,819,828	74,819,828
A3	Power factor compensation installations	0	0
B	**REQUIRED - TOTAL (B1+B2+B3+B4+B5+B6)**	1,594,895,267	982,298,720
B1	Replacement of existing depreciated equipment, whose technical parameters no longer correspond to the current regulations and no longer ensure compliance with the performance and quality parameters provided for in the legislation	4,738,311	4,738,311
B2	Replacement of equipment, reengineering and modernization works to reduce grid losses (CPT), replacement of metering	217,737,832	217,737,832

	groups		
B3	Improvement of the quality of distribution services	349,921,609	346,075,446
B4	Building new capabilities, expanding the existing network to supply new users	161,756,396	138,597,573
B5	Implementation of intelligent measurement systems	164,315,953	145,645,619
B6	New connections, including those required by primary legislation, network reinforcement for new connections, and the part not covered by the connection tariff	696,425,167	129,503,940
C	**JUSTIFIABLE - TOTAL (C1+C2+C3+C4+C5)**	302,748,387	297,487,146
C1	Acquisition of equipment to ensure occupational safety and acquisition of work equipment	140,478,329	140,478,329
C2	Improvement of working conditions	37,483,220	37,483,220
C3	Take-over of power distribution capacities from third parties	22,041,414	22,041,414
C4	Replacement of metering groups and replacements of parts of fixed assets	91,852,780	86,591,540
C5	Replacements following incidents	10,892,643	10,892,643

It is noted that of the total value of investment works carried out in 2021, investment works carried out from own resources represent 71.8 %.

The evolution of the investment volume from own sources of the transferor electricity distribution operators in the period 2017 – 2021 is presented as follows:



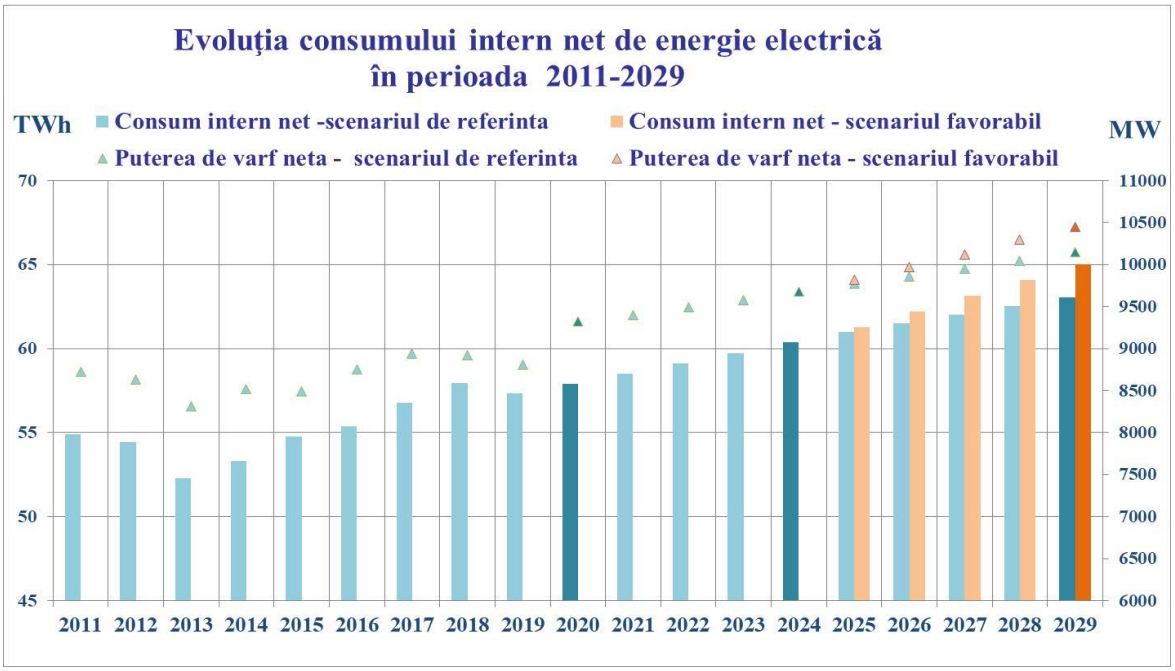
Own fund investments achieved in 2017-2021

4. ASPECTS REGARDING TECHNICAL OPERATION: NETWORK CONGESTION MANAGEMENT, PERFORMANCE STANDARDS, NETWORK SECURITY, NETWORK CONNECTION, TECHNICAL COOPERATION OF TSOs WITH THIRD PARTIES, INVESTMENT IN GENERATION CAPACITY IN RELATION TO OPERATIONAL SAFETY

4.1. Monitoring the forecast of the balance between resources and electricity consumption for the next 5 years and estimating the evolution of electricity supply security for a period between 5 and 15 years

ANRE monitors the forecast of the balance between resources and electricity consumption for the next 5 years and the estimation of the evolution of electricity supply security for a period between 5 and 15 years, including the planning of the commissioning of new generation capacities based on the information and analyses submitted by the TSOs in the 10-year RET development plan and the RET investment plan.

Forecast of the national electricity system balance between production and consumption for a period of 10 years:



Development of internal net energy consumption in 2011-2029, Internal net consumption – Reference scenario, Internal net consumption – favourable scenario, Net peak power – Reference scenario, Net peak power – Favourable scenario

Forecast of electricity consumption for the period 2020-2029:

	U.M.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		realizari								estimari	prognoza									
SCENARIUL DE REFERINTA																				
Consum intern net de energie electrica	TWh	54.9	54.4	52.3	53.3	54.8	55.4	56.8	57.9	57.3	57.9	58.5	59.1	59.7	60.4	61.0	61.5	62.0	62.5	63.0
ritm anual de crestere	%	*2.9*	*-0.9*	*-3.9*	*1.9*	*2.7*	*1.1*	*2.5*	*2.1*	*-1.1*	*1.0*	*1.1*	*1.1*	*1.1*	*1.1*	*1.0*	*0.9*	*0.9*	*0.8*	*0.8*
Puterea de varf neta - consum	MW	8724	8627	8312	8522	8488	8752	8940	8920	8813	9325	9400	9490	9580	9680	9770	9860	9950	10050	10150
SCENARIUL FAVORABIL																				
Consum intern net de energie electrica	TWh	54.9	54.4	52.3	53.3	54.8	55.4	56.8	57.9	57.3	57.9	58.5	59.1	59.7	60.4	61.3	62.2	63.1	64.1	65.0
ritm anual de crestere	%	*2.9*	*-0.9*	*-3.9*	*1.9*	*2.7*	*1.1*	*2.5*	*2.1*	*-1.1*	*1.0*	*1.1*	*1.1*	*1.1*	*1.1*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*
Puterea de varf neta - consum	MW	8724	8627	8312	8522	8488	8752	8940	8920	8813	9325	9400	9490	9580	9680	9820	9970	10125	10300	10450

Achievements, estimations, prognosis, M.U.

Reference scenario, Internal net energy consumption, Annual growth rate, Net peak power – consumption

Favourable scenario, Internal net energy consumption, Annual growth rate, Net peak power - consumption

Analysis of the adequacy of the national electricity system production capacity in the period 2020-2024-2029

The adequacy of the system shall be based on the extent to which generation capacities in the national electricity system (SEN) can cover the demand for electricity in all stationary regimes in which the system may be located.

This condition has been verified for the time of year when the maximum consumption in the national electricity system is reached, i.e. at winter evening peaks, using the methodology applied at European level under ENTSO-E for seasonal adequacy studies.

The methodology determines the extent to which the net production capacity actually available in the national electricity system can cover net domestic consumption at peak

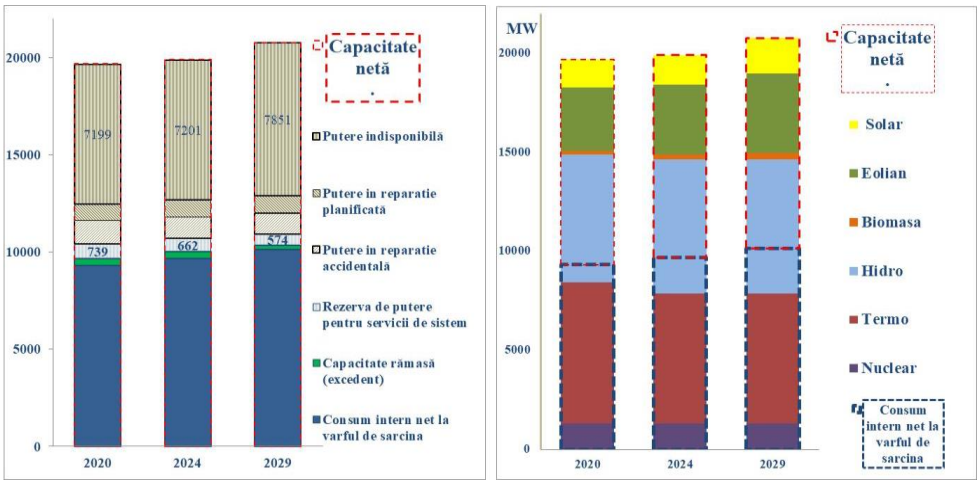
winter loads starting from the net capacity installed in the system, from which capacities under planned and accidental repairs have been deducted, as well as capacities with technical, environmental and legal restrictions, i.e. the unavailability of the primary energy source, including reserves for system technology services.

The table below shows the estimation of the adequacy of the production system for the analysed horizons, 2020-2024-2029, in the *Baseline scenario* for variation in consumption and generation capacities:

Adequacy of the production park in the national electricity system - Baseline scenario:

MW

	Net SEN power	2020	2024	2029
1	Nuclear plants	**1325**	**1325**	**1325**
2	Conventional thermo-electric plants	**7101**	**6544**	**6544**
	• lignite	3112	3112	3112
	• coal	1050	430	430
	• natural gas / hydrocarbons	2939	3002	3002
3	Renewable energy resources	**4779**	**5249**	**6119**
	• wind power	3200	3500	4000
	• photovoltaics	1400	1500	1800
	• biomass	180	250	320
4	Hydroelectric plants	**6471**	**6778**	**6778**
	• CHEAP	0	0	0
5	**Net production capacity [5=1+2+3+4]**	**19676**	**19896**	**20766**
6	**Total unavailable power (including technical, environmental, legal and restrictions and unavailability of the primary energy source)**	9992	9850	10393
7	**Actual power available [7=5-6]**	**9684**	**10046**	**10373**
8	Net internal consumption at peak load	9325	9680	10150
9	**Remaining capacity (not considering exchanges with other systems) [9=7-8]**	**359**	**366**	**223**
10	**Simultaneous import capacity**	**1800**	**3000**	**3600**
11	**Simultaneous export capacity**	**2000**	**3200**	**3900**



Net capacity, Unavailable power, Planned power undergoing repairs, Accidental power under repair, Power reserve for system services, Remaining capacity (excess), Internal net consumption at load peak

Net capacity, solar power, wind power, biomass, hydro, thermos, nuclear, Net internal consumption at load peak

Power balances - Baseline scenario

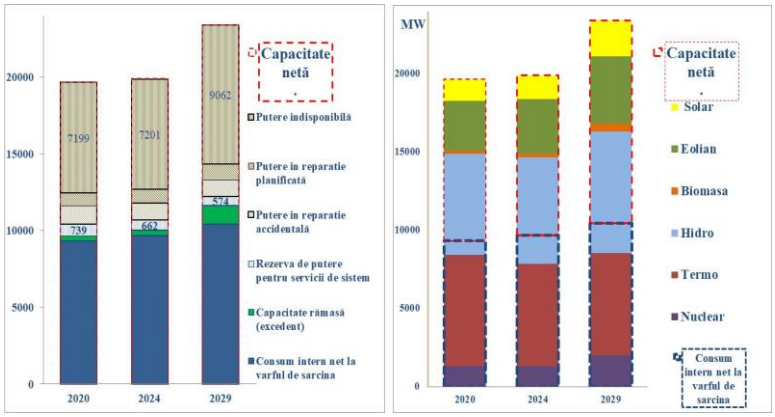
In this scenario, the net power surplus available in the system is about 2% of the net production capacity in 2020, a value that remains almost constant.

The table below includes the estimation of the adequacy of the production system for the horizons 2020-2024-2029, in the *Favourable scenario* of consumption variation and the *"Green" scenario* of generation capacity evolution.

Adequacy of the generation park in the national electricity system - favourable consumption scenario / "Green" scenario:

MW

	Net SEN power	2020	2024	2029
1	Nuclear plants	**1325**	**1325**	**1990**
2	Conventional thermoelectric plants	**7101**	**6544**	**6544**
	• lignite	3112	3112	3112
	• coal	1050	430	430
	• natural gas / hydrocarbons	2939	3002	3002
3	Renewable energy resources	**4779**	**5249**	**7100**
	• wind power	3200	3500	4300
	• photovoltaics	1400	1500	2300
	• biomass	180	250	500
4	Hydroelectric plants	**6471**	**6778**	**7778**
	• CHEAP	0	0	1000
5	**Net production capacity [5=1+2+3+4]**	**19676**	**19896**	**23412**
6	**Total unavailable power (including technical, environmental, legal restrictions and unavailability of the primary energy source)**	9992	9850	11747
7	**Effective power available [7=5-6]**	**9684**	**10046**	**11664**
8	Net internal consumption at peak load	9325	9680	10450
9	**Remaining capacity (not considering exchanges with other systems) [9=7-8]**	**359**	**366**	**1214**
10	**Simultaneous import capacity**	**1800**	**3000**	**3600**
11	**Simultaneous export capacity**	**2000**	**3200**	**3900**



Net capacity, Unavailable power, Planned power undergoing repairs, Accidental power under repair, Power reserve for system services, Remaining capacity (excess), Internal net consumption at load peak

Net capacity, solar power, wind power, biomass, hydro, thermos, nuclear, Net internal consumption at load peak

Power balances - Favourable scenario

In this scenario, the net power surplus available in the system increases from around 2 % in 2020 and 2024 to around 5 % in 2029 of net production capacity, due to the commissioning of Cernavodă unit 3 and the Tarnița pump accumulation plant hypothesis. The unusable power increase is due to the unpredictable component associated with increased production from renewable sources, especially wind and photovoltaic energy.

The adequacy forecast took into account that the installation of wind and solar power plants and results in an increase in the share of unavailable power, as a consequence of the specific intermittent operation of these plants, characterized by a small number of hours of maximum power utilization.

The integration of CEE and CEF into the national electricity system requires that conventional power plants provide the frequency adjustment function to compensate for power variations produced by them as a result of primary energy variations. It is therefore necessary to install state-of-the-art plants in the system, as this mode of operation has negative implications for the production costs and the life of basic operating groups.

Peak load adequacy – sensitivity analysis in relation to the availability of fossil fuel-based generation units and the likelihood of new predicted generation capacities not being achieved

In the framework of the peak load adequacy assessment, the TSO has conducted a sensitivity analysis regarding the failure to achieve new expected generation capacities. In case it will not be possible to achieve by 2024 the projects of new natural gas groups included in the reference scenario, with a total net available power of 145 MW (63 MW in Oradea, 44 MW in Govora and 38 MW in Palas Constanța) and also, existing capacities totalling 3579 MW could be closed in advance, namely:

- 2906 MW of lignite at the Complexul Energetic Oltenia S.A energy complex (4 groups in Turceni = 1196 MW, 3 groups in Rovinari = 888 MW, 2 groups in Işalnița = 582 MW, 2 groups in Craiova = 240 MW), as a consequence of the evolution of the price of CO_2 certificates on the latter's financial situation,
- 190.7 MW of lignite at CET Govora, for financial reasons, but also because the plant is dependent on the primary resource from CE Oltenia,
- 130 MW of coal at Hunedoara Energy complex (Group 4 Paroșeni), which, due to financial difficulties and restrictions imposed by compliance with environmental requirements, can remain with only one available group (in Deva),
- 352 MW of gas at CET Galaţi, due to the insolvency issues facing the plant, with the risk bankruptcy.

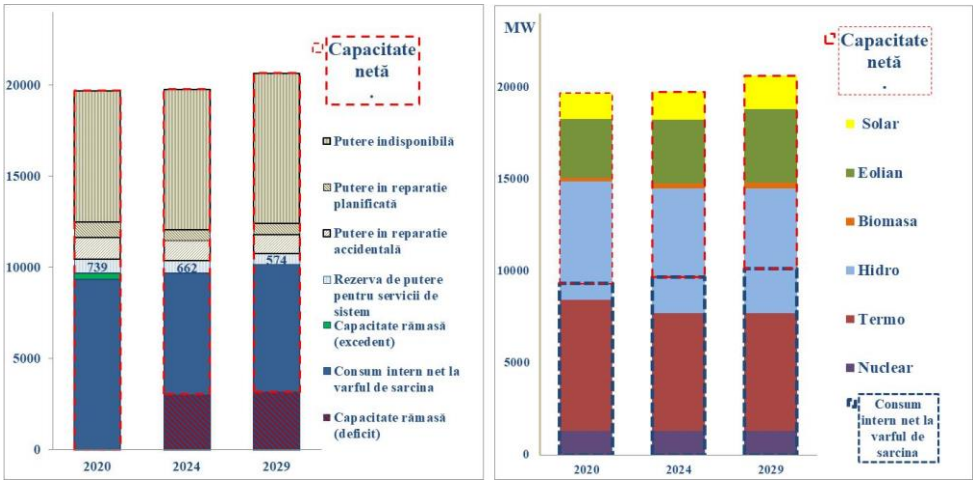
The results of modelling this scenario show that, in the absence of measures such as the capacity market, **the missing capacity at the estimated peak load** reaches **3 GW in 2024 and 3.2 GW in 2029**, at the limit of the import capacity of the RET, which will increase over time, as the interconnection investment projects of CNTEE Transelectrica SA are finalised, from an NTC value of 3 GW in 2024 to 3.6 GW in 2029.

Adequacy of the generation park in the national electricity system - Sensitivity analysis (critical scenario):

			MW
	Putere netă in SEN	**2024**	**2029**
1	centrale nucleare	**1325**	**1325**
2	centrale termoelectrice conventionale	**6399**	**6399**
	• pe lignit	3112	3112
	• pe huila	430	430
	• pe gaze naturale / hidrocarburi	2857	2857
3	resurse energetice regenerabile	**5249**	**6119**
	• eoliene	3500	4000
	• fotovoltaice	1500	1800
	• biomasa	250	320
4	centrale hidroelectrice	**6778**	**6778**
5	**Capacitate netă de producere [5=1+2+3+4]**	**19751**	**20621**
6	**Putere indisponibilă totala (inclusiv restricții tehnice, de mediu, legale și indisponibilitatea sursei primare de energie)**	13089	13633
7	**Puterea efectiv disponibilă [7=5-6]**	**6662**	**6988**
8	Consum intern net la varful de sarcină	9680	10150
9	**Capacitate rămasă (fără considerarea schimburilor cu alte sisteme) [9=7-8]**	**-3018**	**-3162**
10	**Capacitate simultana de import**	**3000**	**3600**
11	**Capacitate simultana de export**	**3200**	**3900**

Net SEN power

Nuclear plants, Conventional Thermoelectrical plants, lignite, coal, natural gas/hydrocarbons, Renewable energy resources, Wind power, Photovoltaics, Biomass, Hydro plants, Net production capacity, Total unavailable power (including technical, environmental, legal restrictions and unavailability of primary energy source), Actual available power, Net internal consumption at peak load, Remaining capacity (without considering exchanges with other systems), Simultaneous import capacity, Simultaneous export capacity



Net capacity, Unavailable power, Planned power undergoing repairs, Accidental power under repair, Power reserve for system services, Remaining capacity (excess), Internal net consumption at load peak, Remaining capacity (deficit)

Net capacity, solar power, wind power, biomass, hydro, thermos, nuclear, Net internal consumption at load peak

Power balances - Sensitivity analysis (critical scenario)

The coverage of a significant share of net domestic import consumption entails major risks related to the potential lack of regional resources in terms of electricity generation capacities, taking into account the annual balance of the countries in the region, which, with the exception of Bulgaria and the Czech Republic, are net importers (Hungary, Poland, Croatia, Serbia).

In conclusion, the closure of existing groups (particularly coal-based) that are not profitable in 2024-2029, coupled with the failure to develop new groups to replace this capacity, has a negative impact on the adequacy of the system and energy security at national and even regional level, effect multiplied based on the assumptions of severe weather conditions that would lead to an increase in net domestic consumption and lack of primary resource for power plants (wind/water) and possible unavailability in the natural gas transmission network. In such a situation, the missing capacity at the load point exceeds the import capacity of the RET.

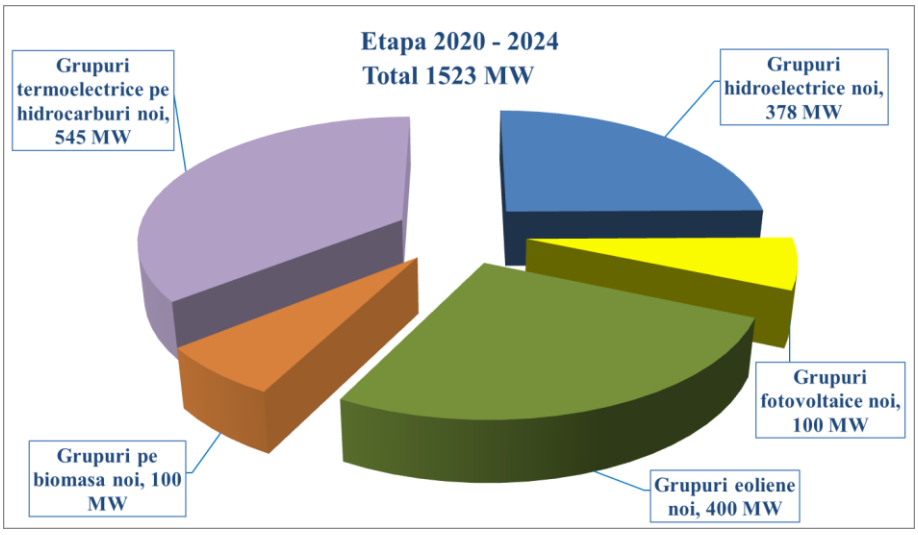
Scenarios regarding the evolution of the generation park

The scenarios related to the evolution of the analysed power plant capacity are correlated with the scenarios corresponding to the 2025 and 2030 horizons used in ENTSO-E for electricity market modelling studies at pan-European level of the *European transmission grid development plan* (TYNDP 2020) and the medium-term adequacy study (MAF2019).

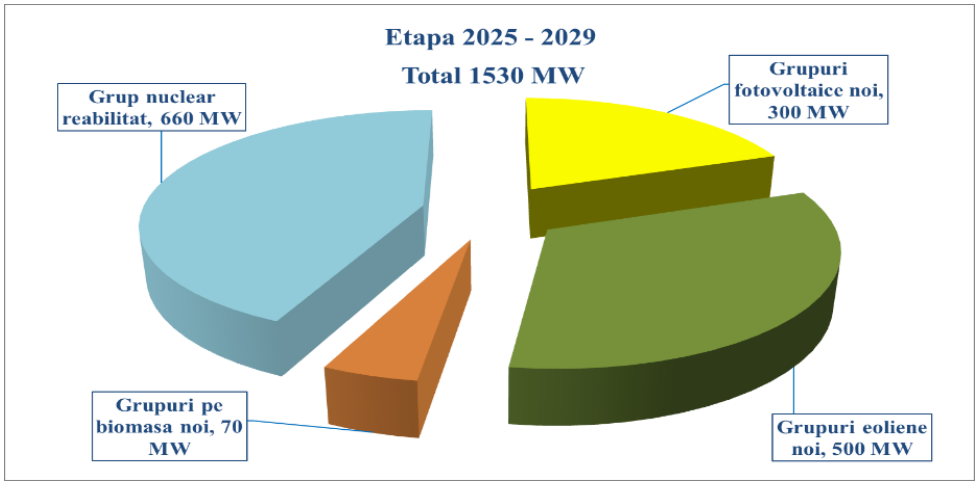
Thus, for the period 2020-2029, a *Reference scenario* for the development of generation capacities was considered, which includes a program of **definitive withdrawals from operation of certain thermoelectric groups**, at the end of their life or due to non-compliance with the European Union requirements on pollution, **totalling 1094 MW** available net power.

According to this scenario, after rehabilitation, the 1 Nuclear Power Group in Cernavodă (stopped for reengineering for service life extension) will be recommissioned in the same period, with a net available power of 660 MW.

The figure below shows the rehabilitation projects and new groups, for the 2020-2024 stages and 2025-2029, respectively, corresponding to the reference scenario of evolution of the generation park.



Stage 2020-2024 Total 1523 MW, New hydrocarbons thermoelectrical groups, New biomass groups, New hydroelectrical groups, New photovoltaics groups, New wind power groups



Stage 2025-2029 Total 1530 MW, Rehabilitated nuclear group, New biomass groups, New photovoltaics groups, New wind power groups

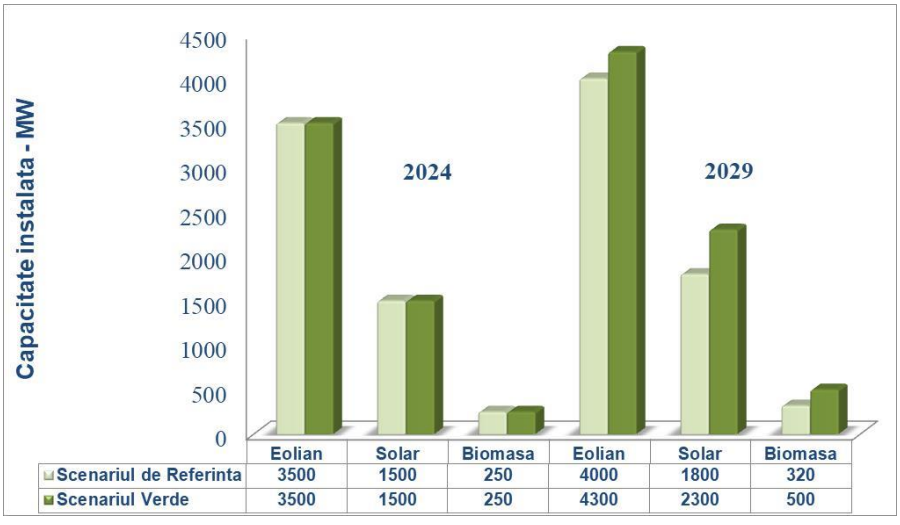
Rehabilitation projects and new groups

As regards the intentions to install new groups, according to the information received by TSOs from existing producers, they amount to a net available power of around 545 MW, excluding renewable projects.

New group projects include a combined cycle natural gas plant in Iernut, cogeneration plants in Oradea, Govora, Palas, hydroelectric plants in different stages of execution, CEF and CEE, as well as new RES biomass groups.

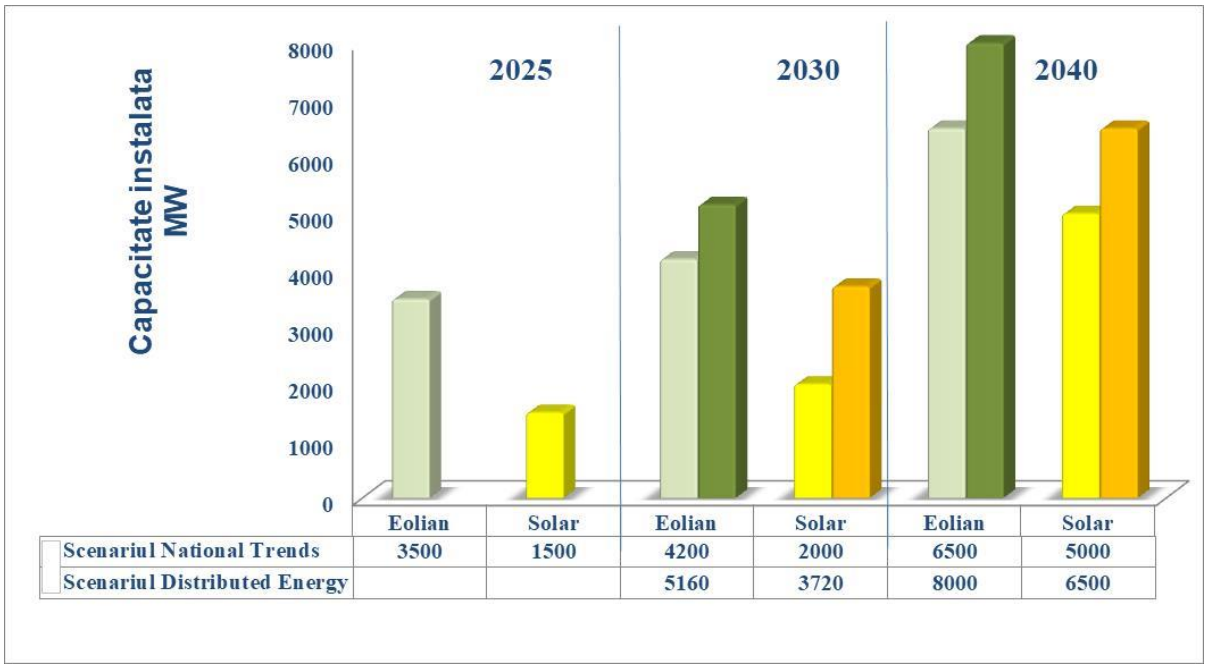
In addition to the *Reference scenario* for capacity development, an *alternative scenario ("Green scenario")* corresponding to the favourable consumption scenario characterized by economic and financial conditions favourable to the implementation of EU-level energy policies was also analysed.

In this scenario, in 2029, Nuclear Group 3 is considered to be commissioned in Cernavodă, as well as a storage capacity of 1000 MW (hydroelectric power station with pump accumulation Tarnița), the total capacity from renewable sources (excluding hydro) reaching 7100 MW.



Installed capacity, Reference scenario, Green scenario, Wind power, Solar power, Biomass
Development of renewable generation capacity (excluding hydro)

For the 2029 time horizon, the following renewable capacities were considered, according to the National Trends, Distributed Energy and Global Ambition scenarios.



	Eolian	Solar	Eolian	Solar	Eolian	Solar
Scenariul National Trends	3500	1500	4200	2000	6500	5000
Scenariul Distributed Energy			5160	3720	8000	6500

Installed capacity MW, National trends scenario, Distributed Energy scenario, Wind power, Solar power
The evolution of intermittent renewable capacity in ENTSO-E scenarios

4.2. Monitoring the technical status and level of maintenance of the electricity transmission network

The monitoring of the technical status of the electricity networks is presented in the *Report on the achievement of performance indicators for the transmission, system and distribution services of electricity and the technical state of the transmission and distribution networks - 2021*, report published on the ANRE website at: https://www.anre.ro/ro/energie-electrica/rapoarte/rapoarte-indicatori-performanta.

The technical state of the electrical networks is monitored by ANRE by means of the annual monitoring of the lifetime of the installations, in relation to the volume of investment and maintenance works carried out by the network operators, as well as by means of the performance indicators related to the service in question.

4.2.1. Volume and service life of the transmission power grid

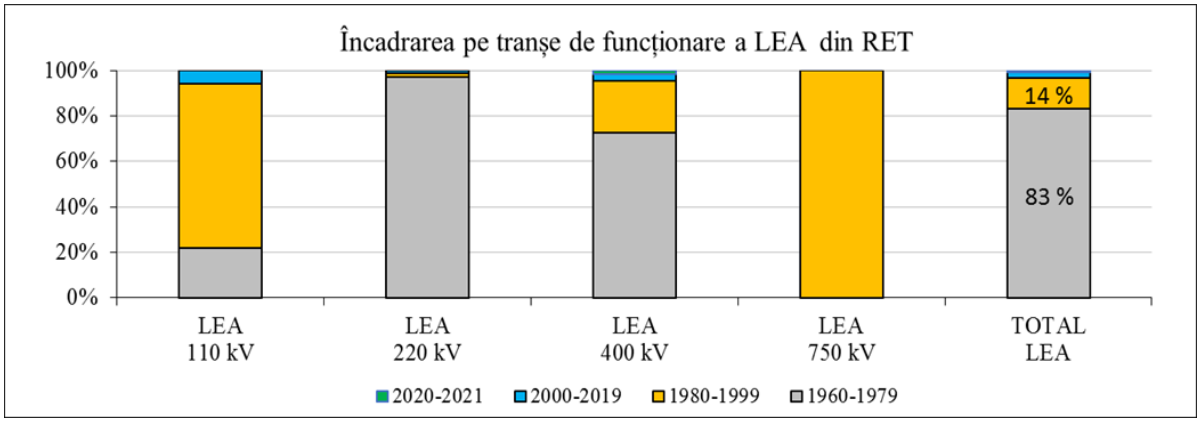
The electric power transmission grid (RET) comprises: overhead electricity lines (LEA) with a rated voltage of 750 kV, 400 kV, 220 kV, 110 kV, and electrical stations with a higher voltage of 400 kV and 220 kV.

The total length of the electric transmission network is 8,904.264 km, of which the interconnection lines amass 489.04 km in length. The distribution of overhead electricity lines (LEA) per voltage levels is as follows:

	Period Commissioning	Overhead electricity line (LEA) category				
		110kV	220kV	400kV	750kV	TOTAL
LEA	1960-1979	8.9	3,764.28	3,613.67	-	7386.85

	Period Commissioning	Overhead electricity line (LEA) category				
		110kV	220kV	400kV	750kV	TOTAL
Route length [km]	1980-1999	29.1	61.12	1,144.42	3.11	1237.75
	2000-2019	2.42	50.55	154.39	-	207.06
	2020-2021	-	-	72.13		72.13

The assignment of overhead electricity lines per operating service life bands shall be as follows:



Classification per operation bands of overhead electricity lines from RET

Of the total length of overhead electricity lines (LEA), 83 % was commissioned between 1960 and 1979 and 14 % between 1980 and 1999. A large part of the overhead electricity lines (LEA) has a life-time limit with a physically worn technological level, with a low percentage of commissioning after 2000 of only 3%.

The degree of use related to the overhead electricity lines (LEA) represents the percentage ratio between their service life and the normal service life (48 years according to the last edition of the *Catalogue on classification and normal operating durations of fixed assets* established by means of GD no. 2139/2004) and is presented in the following table:

	Period Commissioning	Overhead electricity line (LEA) category				
		110kV	220kV	400kV	750kV	TOTAL
Medium level of use (%)	1960-1979	118.75	104.3	103.76	-	104.05
	1980-1999	69.55	83.33	77.95	72.91	78.01
	2000-2019	16.66	26.54	22.2	-	23.19
	2020-2021	-	-	2.08	-	2.08

Note: The constructive tensions of overhead electricity lines (LEA) were taken into account. If the same overhead electricity lines (LEA) include dimensioned poles for different constructive tensions, the lowest tension was considered.
The average degree of use per voltage level was calculated as the length-weighted average of the overhead electricity lines' level of use.

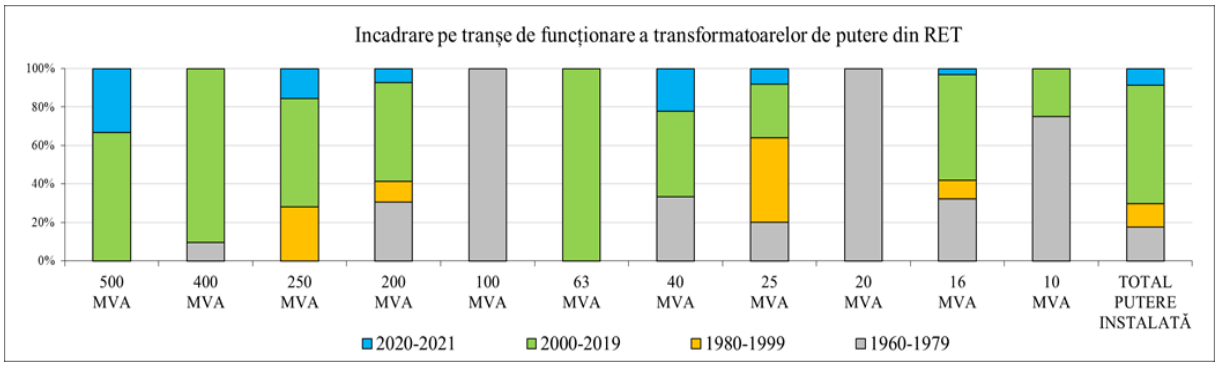
An average use rate of more than 100 % is noted for the overhead electricity lines (LEA) commissioned by 1979, as they account for 83 % of the total overhead power lines in the management of the TSOs.

The number and installed power of transformers/autotransformers in power stations are shown in the following table:

	Period Commissi	Effective power of the transformer [MVA]											TOTAL [MVA/%]
		500	400	250	200	100	63	40	25	20	16	10	

	oning													
Number Transformer [pcs]	1960-1979		2		25	1		3	5	1	10	6	6,385	17.7 %
	1980-1999			9	9				11		3		4,373	12.1 %
	2000-2019	2	19	18	42		2	4	7		17	2	22,253	61.6 %
	2020-2021	1		5	6			2	2		1		3,096	8.57 %

The classification of transformers and autotransformers on operating life bands shall be conducted as follows:



Classification per operation bands of power transformers from RET, Total installed power

It is found that of the total installed power in transformers / autotransformers, approx. 70% was commissioned after 2000.

The degree of use of transformers/autotransformers is the percentage ratio between their operating life and normal service life (24 years according to the last edition of the Catalogue on classification and normal service lives of fixed assets established by means of GD no. 2139/2004) and is presented in the following table:

	Period Commissioning	Effective power of the transformer [MVA]											TOTAL
		500	400	250	200	100	63	40	25	20	16	10	
Level of use [%]	1960-1979		198		197	188		196	188	246	192	199	> 100 %
	1980-1999			144.4	158				154		154		
	2000-2019	77.1	57.7	51.8	42.8		37.5	41.7	30.3		27	29	45.03
	2020-2021	4		2.5	2.08			4.2	2.1		4		18.82

It is noted that most transformers/autotransformers commissioned before 2000 (approx. 30% of the total installed power in transformers and autotransformers) have exceeded their service life.

4.2.2. The volume and duration of the electricity distribution networks

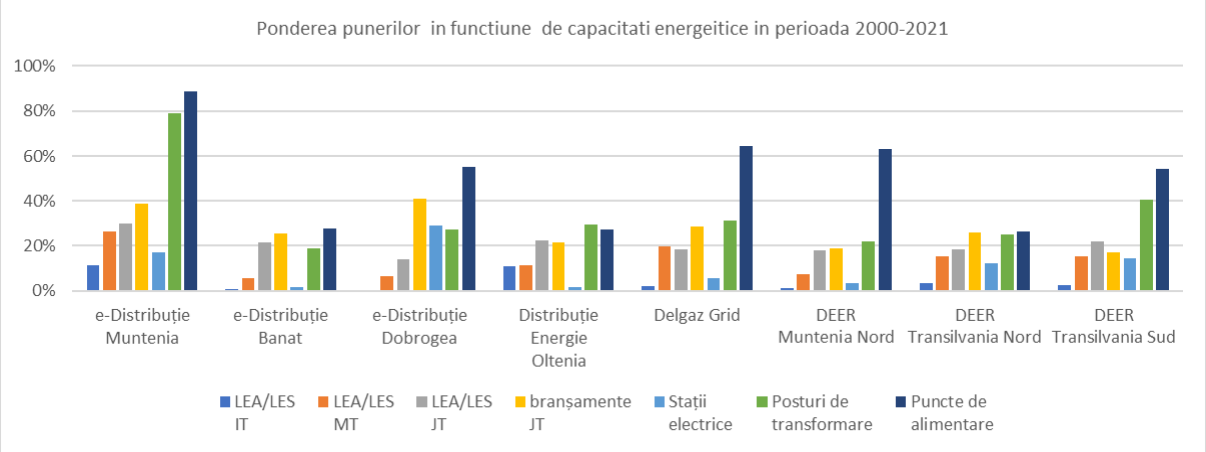
At country-wide level, the following classification is noticed, in what concerns the service life of the installations:

Commissioning	Overhead electricity lines (LEA) + Underground electricity lines (LES) IT [km route]	Overhead electricity lines (LEA) + Underground electricity lines (LES) Medium voltage [km route]	Overhead electricity lines (LEA) + Underground electricity lines (LES) Low voltage [km route]	LV connections [km route]	Electrical stations 110kV [pcs]	Electrical stations below 110kV [pcs]	Transformation stations [pcs]	Power supply sites [pcs]

Commissioning	Overhead electricity lines (LEA) + Underground electricity lines (LES) IT [km route]	Overhead electricity lines (LEA) + Underground electricity lines (LES) Medium voltage [km route]	Overhead electricity lines (LEA) + Underground electricity lines (LES) Low voltage [km route]	LV connections [km route]	Electrical stations 110kV [pcs]	Electrical stations below 110kV [pcs]	Transformation stations [pcs]	Power supply sites [pcs]
before 1960	1,670 (7.5%)	9,830 (8.1%)	7,927 (4.3%)	7,896 (4.6%)	30 (3.4%)	11 (3.7%)	1,951 (2.6%)	18 (1.4%)
1960-1979	14,556 (65.5%)	72,380 (59.3%)	88,049 (47.3%)	69,955 (40.8%)	497 (57.0%)	205 (69.7%)	28,477 (38.2%)	322 (24.7%)
1980-1999	5,004 (22.5%)	23,270 (19.1%)	51,426 (27.6%)	49,923 (29.1%)	239 (27.4%)	64 (21.8%)	18,633 (25.0%)	193 (14.8%)
2000-2019	926 (4.2%)	14,413 (11.8%)	36,699 (19.7%)	40,824 (23.8%)	105 (12.0%)	14 (4.8%)	23,126 (31.0%)	565 (43.3%)
2020-2021	61 (0.3%)	2,174 (1.8%)	2,101 (1.1%)	40,824 (1.7%)	1 (0.1%)	0 (0%)	2,440 (3.3%)	206 (15.8%)
TOTAL	22,218	122,067	186,202	2,875	872	294	74,627	1,304

Most of the installations related to the distribution networks currently in operation have a long service life, predominantly more than 35 years.

The share of energy capacities commissioned in the period 2000-2021 out of the total, per categories of installations and operators, is as follows:



Weighting of energy capacities' commissioning in 2000-2021, Overhead electricity lines, Underground electricity lines, Low voltage connections, Electricity stations, Transformation stations, Supply points

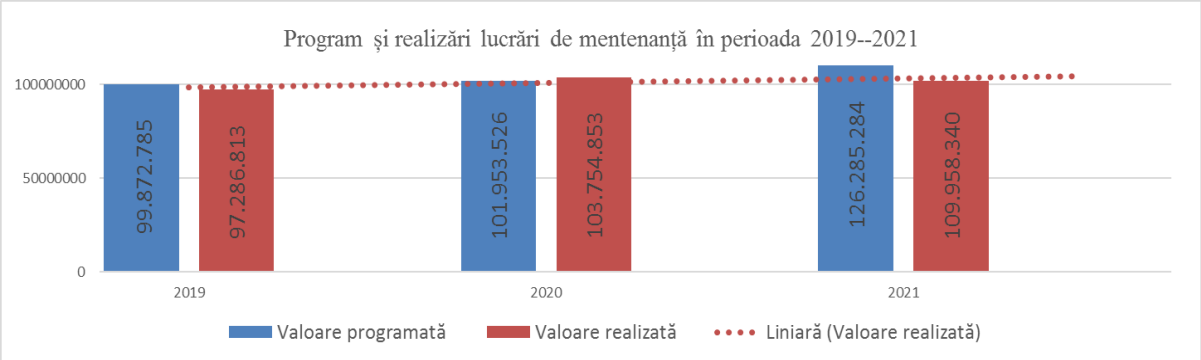
It is further necessary to intensify and streamline maintenance activities, in order to maintain the electrical installations within the nominal operating parameters, to carry out appropriate monitoring and assessment of the state of the grids, as well as to implement consistent reengineering and modernization programs for these installations.

4.2.3. Achievement of the annual maintenance plans of TSOs

The degree of achievement of the maintenance program per types of works is represented in the following table:

	2019	2020	2021
Scheduled value [RON million]	99.872	101.953	126.285[1)]
Achieved value [RON million]	97.286	103.754	109.958
Achievement degree [%]	97.4 %	101.8 %	87.1 %

1) The value of the maintenance plan for 2021, in nominal terms of the year, is the value stipulated in the investment plan of the regulatory period (RON 114,369,457), updated with inflation, 2.06% for 2020 and 8.19% for 2021.



Maintenance works program and achievements in 2019-2021, Programmed value, Achieved value, Linear (Achieved value)

The weighting of the scheduled and achieved values of maintenance work per type of maintenance is represented in the following table:

	Program		Achieved	
Maintenance type	Preventive maintenance	Corrective maintenance	Preventive maintenance	Corrective maintenance
RON million	72.525	53.760	56.614	53.344
% of the total	57.43 %	42.57 %	51.49 %	48.51 %

4.2.4. Achievement of the annual maintenance plans of the DSOs

According to DSO reports, the degree of achievement of network maintenance in 2021 is as follows:

	E-Distribuție Muntenia	E-Distribuție Banat	E-Distribuție Dobrogea	Distribuție Energie Oltenia	Delgaz Grid	DEER Muntenia Nord	DEER Transilvania Nord	DEER Transilvania Sud
Programmed [RON million]	87.553	60.115	52.863	133.788	218.832	16.709	111.338	102.831
Achieved [million RON]	105.092	70.256	49.062	125.086	219.873	12.912	109.000	99,848
Achievement degree [%]	120 %	116.9 %	92.8 %	93.5 %	100.5 %	96.7 %	97.9 %	97.1 %

The reported data show that, for a significant number of operators, the achieved values of corrective maintenance are significant, according to the following table:

Maintenance achieved	E-Distribuție Muntenia	E-Distribuție Banat	E-Distribuție Dobrogea	Distribuție Energie Oltenia	Delgaz Grid	DEER Muntenia Nord	DEER Transilvania Nord	DEER Transilvania Sud
Preventive [million RON]	25.902	27,420	25,542	80.166	145.782	77.338	81.193	66.944
Corrective [million RON]	79.190	42,836	23,520	44.920	74.091	35.574	27.807	32.904

As regards ODC maintenance programs, in 2021, the condition laid down in Article 36(5) of the *Procedure* concerning the performance of maintenance works amounting to at least 90 % of the total value of the annual plan was fulfilled.

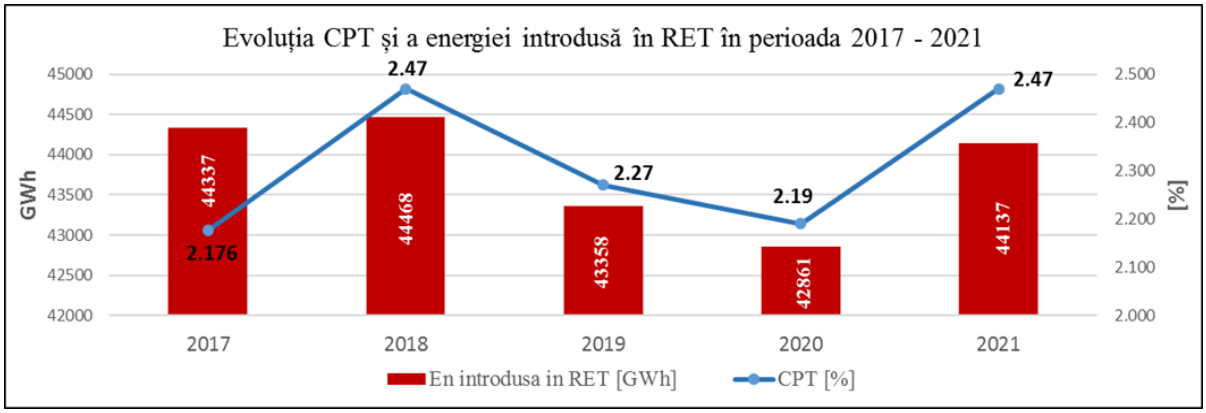
4.3. Monitoring of transmission, system and distribution service performance indicators, reconnection time after planned repairs and unplanned outages

The monitoring of performance indicators is presented in the *Report on the achievement of performance indicators for transmission, system and electricity distribution services and the technical status of the transmission and distribution networks - 2021*, published on the ANRE website at: https://www.anre.ro/ro/energie-electrica/rapoarte/rapoarte-indicatori-performanta.

4.3.1. General performance indicators and continuity of the energy transmission service

The grid losses (CPT) in RET shall be determined as the difference between the electricity input into the RET and the electricity extracted from the RET, relative to the electricity input into the RET.

A comparative situation of grid losses between 2017 and 2021 is shown in the following figure.



Grid losses (CPT) development and energy introduced in RET in 2017-2021, Energy introduced in RET, Grid losses (CPT)

Grid losses recorded in the RET in 2021 amounted to 1,088.798 GWh, 16% higher than in 2020. In relation to the energy entered into the RET meter, grid losses recorded in 2021 are 2.47 %, up from the 2.19 % value corresponding to 2020. The increase in losses was mainly due to the increase in the energy input into the RET meter and the energy consumed, but especially to the more disadvantageous distribution of physical flows on interconnection lines and the unfavourable distribution of generation over consumption sites, which led to the transmission of energy over longer distances.

The energy entered in the RET meter was 44,137 GWh, 2.98% higher than in 2020, given that the net domestic consumption recorded an increase of approx. 4.6%. The evolution of the energy input into RET was influenced by the operation of the power plants that flow directly into RET, which produced approx. 5.1% more energy, and the energy input from RED to RET, which increased by approx. 11.9 %, while the national electricity system import decreased by approx. 11.5%.

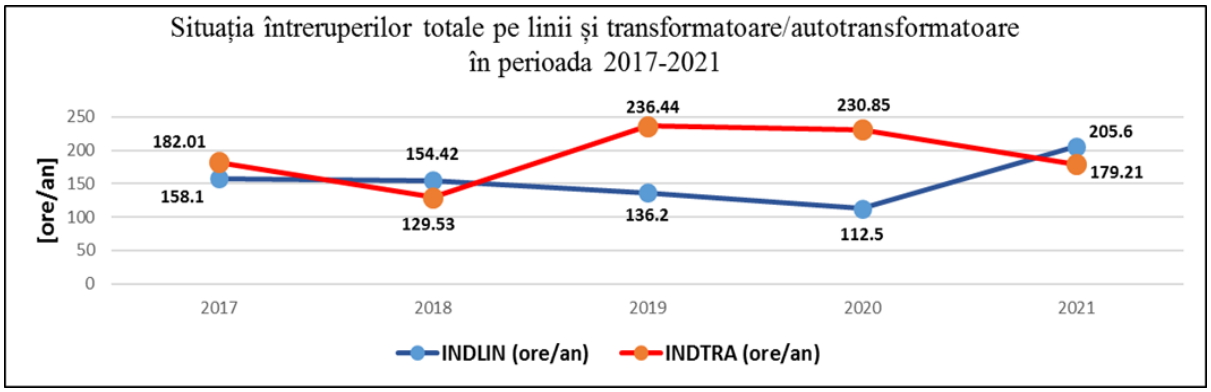
Physical flows on interconnection lines had a much worse evolution than in 2020, which led to increased losses. The increase in cross-border flows and transits occurred with

the coupling of markets at the level of the DAM, on June 18th, 2021, the connection of the 4MMC countries with the countries of the MRC (Germany, Poland and Austria) and on October 28th, 2021 with Bulgaria.

Overall, the production structure that cuts directly into the RET was more disadvantageous in terms of losses in 2021, as compared to 2020. The power plants that flow directly into the RET have produced approx. 5.1% more energy in 2021, compared to 2020.

The amount of recorded precipitation was higher in 2021, causing the increase of the losses component.

The *average over time unavailability of **INDLIN** and **INDTRA** installations*, which are determined according to planned or unplanned (accidental) events and relate to the length expressed in km for overhead electricity lines (LEA) of the RET or to the effective power expressed in MVA for transformers and autotransformers in RET stations, is shown in the figure below for the period 2017-2021.



Status of total outages per lines and transformers/autotransformers in 2017-2021, INDLIN (hours//year), INDTRA (hours/year)

In 2021, there was a total average non-availability in time of overhead electricity lines (LEA) – INDLIN of 205.6 hours/interval, 82.76% higher than in 2020 (112.5 hours/interval).

Among the causes that led to the increase of non-availability of overhead electricity lines (LEA) (both scheduled and unscheduled) in 2021, when compared to 2020, we mention the following: the increase in the number of incidents regarding overhead electricity lines (LEA), bad weather conditions, increased vegetation in the safety corridor, but also actions of third parties resulting in the falling over of certain overhead electricity lines' poles (egg. terminal 174 of the overhead electricity lines 400 kV Rahman-Dobrudja).

In 2021, there was an average total non-availability of 179.2-hour-range in what concerns INDRA transformers over time, 22.37% lower than in 2020 (230.85 hours/interval).

It is noted that the average duration of unscheduled interruptions is approx. 2.9 % of the total average outage time for power lines, i.e. 2.8 % for transformers and autotransformers. In relation to the number of hours of a year, INDLIN accounts for 2.35 % and INDTRA accounts for 2.04 %.

The evolution per category of average non-availability of lines in 2021 over time, compared to 2020, is higher by 42.44 % for unplanned unavailability and by 84.34 % for planned unavailability.

The evolution per categories of average non-availability over time of transformers in 2021, compared to 2020, reads as follows: increase by 183.83% in terms of unplanned non-availability, namely decrease by 23.95% in terms of planned non-availability.

Energy not delivered to users/not produced in ENS plants and *Average interruption time* – AIT are quality indicators related to service continuity. The following table summarizing the ENS and AIT values for the period 2017-2021:

Indicator		**2017**	**2018**	**2019**	**2020**	**2021**
ENS (MWh)	- planned outages	0	0	0	0	0
	- unplanned outages, caused by force majeure	0	0	0	0	0
	- unplanned outages determined by special weather conditions	0	0 / 476.66[1)]	8.983 / 0.249[1)]	0	0
	- unplanned outages determined by other operators, users, producers	11.85 / 2.05[1)]	0	0	0	0
	- unplanned outages caused by the TSO	289.46 / 1105.55[1)]	118.81 / 3088.83[1)]	91.784 / 6.532[1)]	287.98 / 0[1)]	109,76 / 90,5[1)]
AIT (min/ year)	- planned outages	0	0	0	0	0
	- unplanned outages, caused by force majeure	0	0	0	0	0
	- unplanned outages caused by special weather conditions	0	0 / 4.52[1)]	0.0885 / 0.00245[1)]	0	0
	- unplanned outages caused by other operators, users, producers	0,113 / 0,019[1)]	0	0	0	0
	- unplanned outages caused by the TSO	2.762 / 10.55[1)]	1.127 / 29.302[1)]	0.9047 / 0.0643[1)]	2.8374 / 0[1)]	1.01 / 0.835[1)]

Note: The performance standard for the electricity transmission service and for the system service, approved by means of ANRE Order no. 12/2016, requires the recording of values for the energy not delivered to the users, namely for the energy not delivered from the plants, due to long-term interruptions. The first value is ENS/AIT registered with users and the second value is ENS/AIT registered with producers, due to long-term interruptions

In 2021, compared to 2020, there is an improvement in terms of performance indicators regarding the continuity of the electricity transmission service due to the decrease in the amount of undelivered energy to consumers, given that, although the number of undelivered energy incidents increased by 17.24% compared to 2020, they had shorter durations, i.e. lower values of undelivered energy.

The AIT in 2021 decreased from the value recorded in 2020, from 2.83 min/year to 1.01 min/year, and the undelivered energy to consumers decreased from 287.98 MWh to 109.76 MWh (61.89%).

4.3.2. General performance indicators of the system service

In 2021, no ***defect aid*** was requested.

The deviation of the national electricity system balance with ACE frequency correction is reflected in the following table:

Deviation of the national electricity system balance with ACE frequency correction [MWh/h]			
Year	2019	2020	2021
ACE mean value	2.74	3.43	1.22
ACE maximum value	256	350	105
ACE minimum value	-218	-102	-92
Standard deviation	13.5	14.4	10.41

The values of the deviation of the balance with the frequency correction are in line with the developments of previous years, but also with the requirements imposed by the European regulations in force.

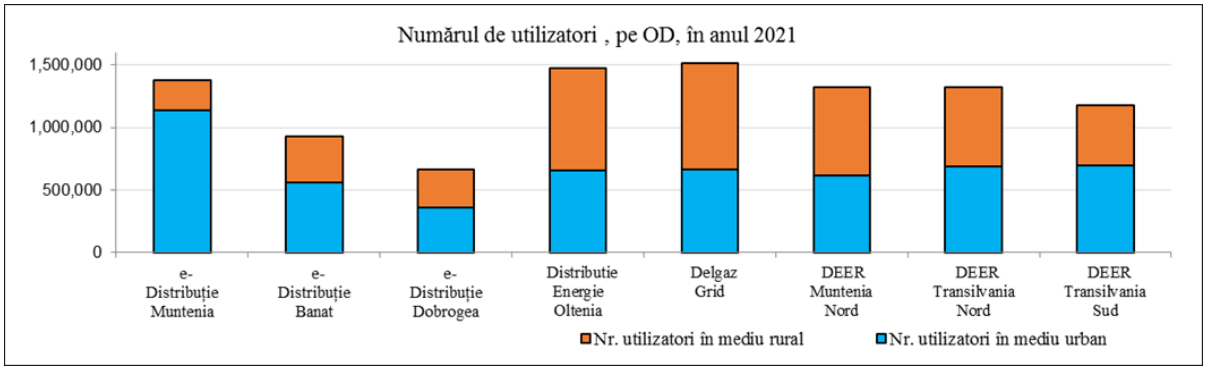
The congestion and network restrictions that caused these congestions in 2021 are shown in the following table:

	Congestion caused by network restrictions		
	in the scheme with N elements in operation in RET and in the 110kV network of RED	as a result of the withdrawal from operation of RET elements	as a result of the withdrawal from operation of RED elements
Amount of electricity used for congestion management [MWh]	6,689,828	652.549*	-
Cost of congestions [RON]	1,603,096.556	56.35*	-

**) Accidental withdrawals from operation*

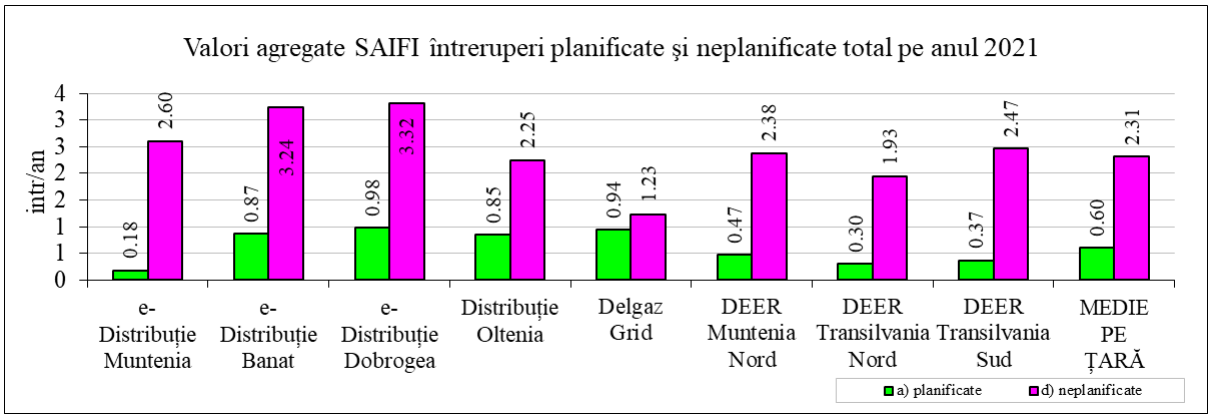
4.3.3. Continuity indicators related to the electricity distribution service

In 2021, the total number of users connected to the electrical grids in the patrimony of the five transferor DSOs, license holders, was 9,786,424 (up from 9,673,106 in 2020, 9,548,041 in 2019, 9,448,823 in 2018), of which 5,387,744 in urban areas and 4,398,580 in rural areas.



Number of users, per DSO, in 2021, Number of users in rural areas, Number of users in urban areas

The supply continuity indicators SAI\FI and SAIDI users recorded the following values for 2021:

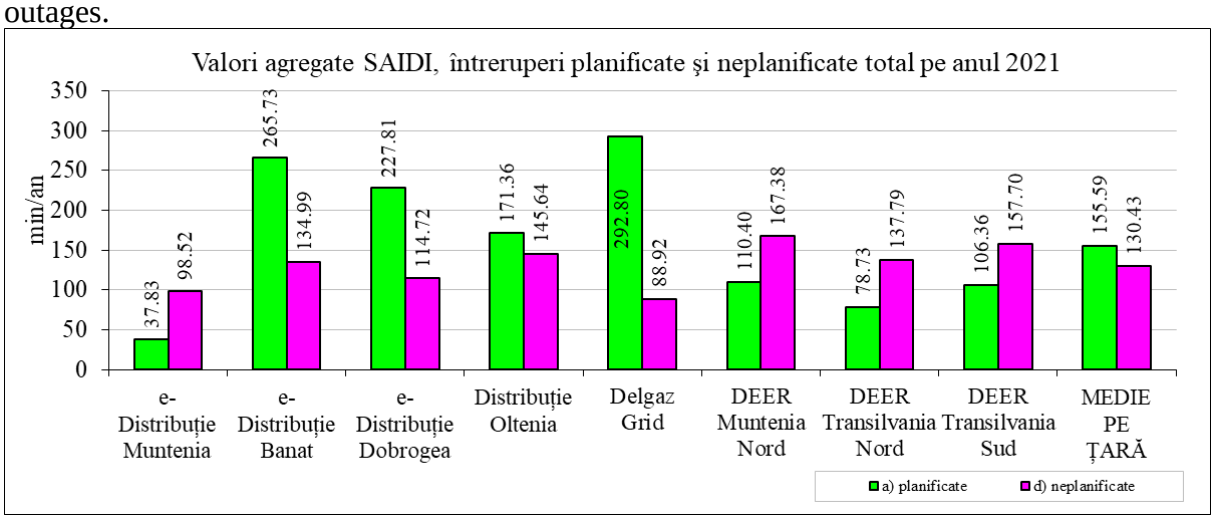


Aggregated SAIFI values – planned and unplanned interruptions – total per 2021

According to the analysis carried out, in the period 2017 – 2021, a slight improvement of SAIFI values for unplanned outages is observed.

Indicator	**2017**	**2018**	**2019**	**2020**	**2021**
SAIFI planned outages (a) [per/year]	0.66	0.61	0.61	0.58	0.60
SAIFI unplanned outages (d) [per/year]	3.54	3.2	2.9	2.57	2.31

The results recorded in 2021 regarding the average frequency of network interruptions (SAIFI) show low values of the planned index (both in urban and rural areas) and much higher values of the unplanned index, corresponding to a large volume of accidental power outages.

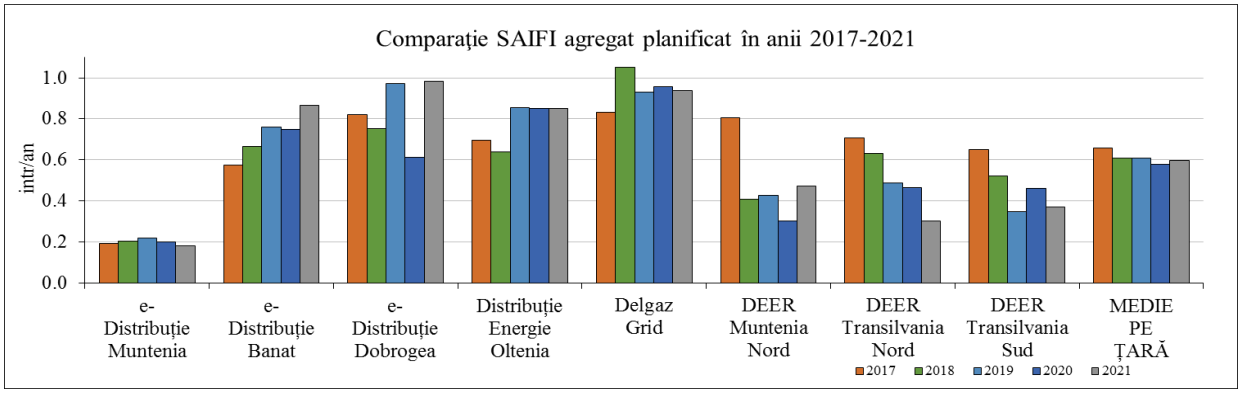


Aggregated SAIDI values – planned and unplanned interruptions – total per 2021

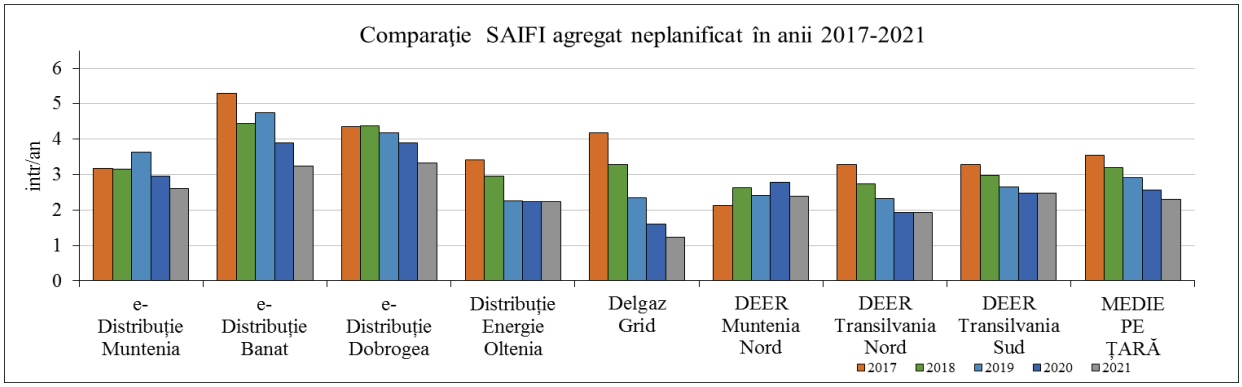
According to the analysis carried out, between 2017 and 2021, a slight improvement of the SAIDI values for planned and unplanned outages is observed.

Indicator	**2017**	**2018**	**2019**	**2020**	**2021**
SAIDI planned interruptions (a) [min/year]	193.1	183.6	171.1	153.93	155.59
SAIDI unplanned outages (d) [min/year]	283.9	224.1	178.9	146.78	130.43

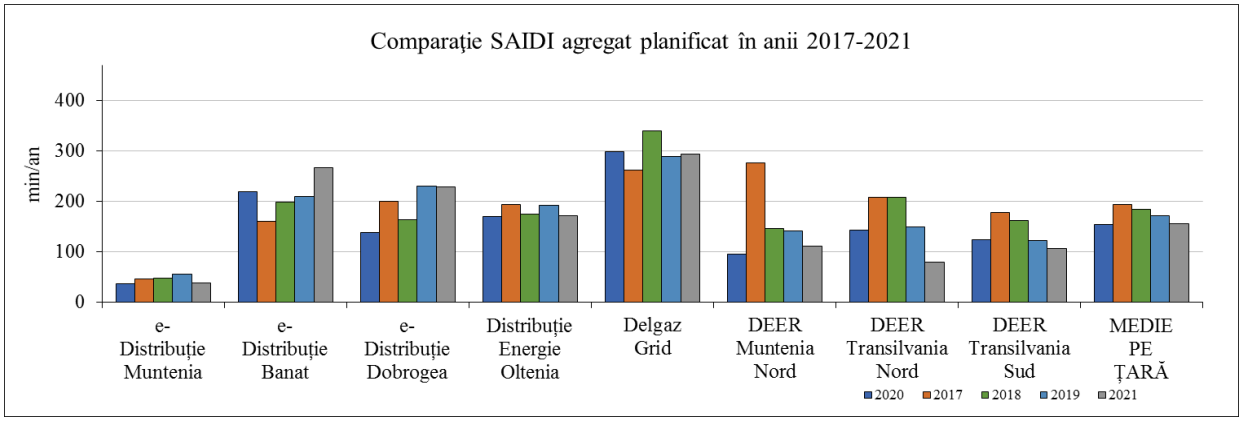
The development of the continuity indicators related to the electricity distribution service in the 8 distribution areas over the last 5 years is as follows:



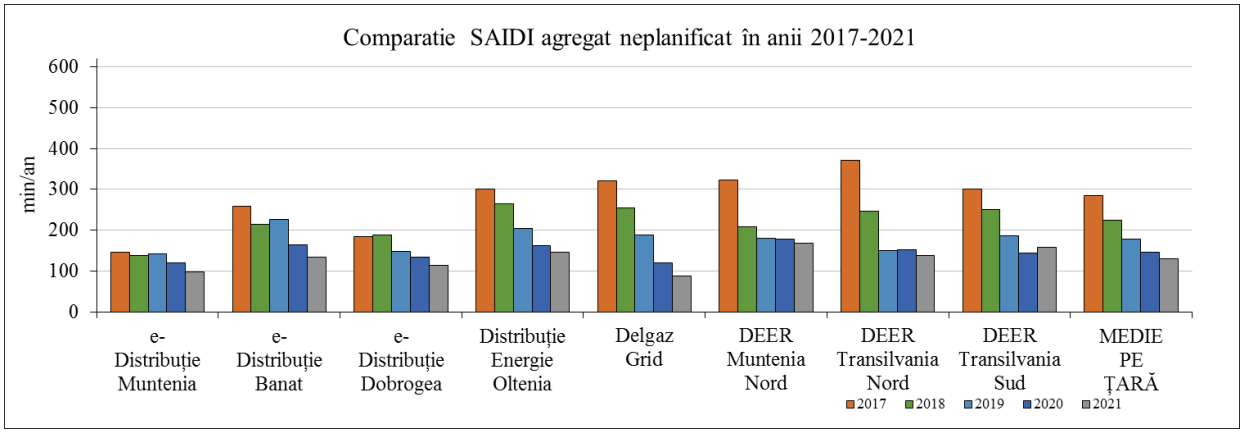
Planned aggregated SAIFI comparison in 2017-2021, Country average



Unplanned aggregated SAIFI comparison in 2017-2021, Country average



Planned aggregated SAIDI comparison in 2017-2021, Country average



Unplanned aggregated SAIFI comparison in 2017-2021, Country average

4.4. Monitoring the time of completion and the cost of connections to the electricity distribution network

The average duration of the connection process, which is the time between the date of submission of the application for connection with the complete relevant documentation, to the date of power-up of the installation in use, shows the following DSO division:

DSO		**E-Distribuție Muntenia**	**E-Distribuție Banat**	**E-Distribuție Dobrogea**	**Distribuție Energie Oltenia**	**Delgaz Grid**	**DEER Muntenia Nord**	**DEER Transilvania Nord**	**DEER Transilvania Sud**	**AVERAGE PER COUNTRY**
Average duration	Low voltage	116	162	123	93	139	147	166	109	132

DSO		E-Distribuție Muntenia	E-Distribuție Banat	E-Distribuție Dobrogea	Distribuție Energie Oltenia	Delgaz Grid	DEER Muntenia Nord	DEER Transilvania Nord	DEER Transilvania Sud	AVERAGE PER COUNTRY
of the connection process [days]	Medium voltage	435	495	397	234	397	114	122	123	290

The average duration of the low voltage connection process recorded a value of 132 days across the country (compared to 87 in 2020, 96 in 2019 and 89 days in 2018), ranging between 93 days for Distribuție Energie Oltenia and 166 days for DEER Transilvania Nord.

The average duration of the medium voltage connection process recorded a value of 290 days across the country (compared to 247 in 2020, 254 in 2019 and 235 days in 2018), with a minimum value of 114 days for DEER Transilvania Nord and a maximum value of 495 days for E-Distribuție Banat.

The average cost of the connection process divided per DSO reads as follows:

DSO		E-Distribuție Muntenia	E-Distribuție Banat	E-Distribuție Dobrogea	Distribuție Energie Oltenia	Delgaz Grid	DEER Muntenia Nord	DEER Transilvania Nord	DEER Transilvania Sud	AVERAGE PER COUNTRY
The average cost of connection [RON][1)]	Low voltage	938	2,341	1,455	2,289	3,218	2,597	2,037	1,986	2,110
	Medium voltage	237,171	92,418	81,687	79,337	123,495	88,408	64,347	84,458	106,415

1) Average connection cost per connected user, paid to the distribution operator (ATR issuance rate + solution study cost + connection rate)

The average cost of low voltage connection was RON 2,110 at the level of the entire country (compared to 2,167 in 2020, 2,415 in 2019 and 1,775 lei in 2018) with a minimum value of RON 938 for E-Distribuție Muntenia and a maximum value of RON 3,218 for Delgaz Grid.

The average cost of medium voltage connection was RON 106,415 across the country (compared to RON 117,408 in 2020, 98,272 in 2019 and RON 92,033 in 2018) with a minimum value of RON 64,347 for DEER Transilvania Nord and a maximum value of RON 237,171 for E-Distribuție Muntenia.

4.5. SMART ELECTRICITY METERING SYSTEMS

4.5.1 Development of the regulatory framework for the deployment of Smart electricity metering systems (SMIs) in 2021

The regulatory framework on the basis of which the SMI implementation process is carried out has been amended and supplemented with provisions aimed at streamlining and stimulating the SMI implementation process.

Thus, throughout 2021, ANRE Order no. 94 of 18.08.2021 ***amending and completing the Framework conditions for the implementation of the calendar of the smart electricity metering systems at national level*** was approved, ***by means of Order of the National Energy Regulatory Authority no. 177/2018 and for the amendment of Order of the National Energy Regulatory Authority no. 88/2015 approving the framework contracts for the supply of electricity to household and non-household customers of last resort suppliers, the general conditions for the supply of electricity to final customers of last resort suppliers,***

the template of the electricity bill and the template of the electricity consumption agreement used by suppliers of last resort.

The amendments and additions to the existing regulations have introduced new performance indicators and reporting methods, aimed at stimulating both the implementation tasks undertaken by the SMI implementation calendar approved by means of Decision no. 778/2019, and the expected technical performance, by commissioned systems.

Order no. 94/2021 includes the following amendments and completions:

- The manner in which to inform the user about the integration of the consumption / production and consumption sites and regarding the new contractual conditions related to the services of electricity supply and distribution, determined by the integration in the SMI of the consumption / production and consumption sites. It has been taken into account that the data collected by smart electricity metering systems are classified as personal data (as per the conclusions of Notification no. 12/2011 on smart metering of the "Article 29" Data Protection Working Group, established as per the provisions of Article 29 of Directive 95/46/EC), in relation to users/customers, DSOs and electricity suppliers must comply with the provisions of EU Regulation 679/2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation);
- Completions to the reporting of two indicators used to monitor the SMI implementation process: "Annual average of the daily success rates of transmission of data from the meter to HES/MDMS", i.e. "cumulative duration of long interruptions recorded in users integrated into the SMI";
- Minimum limit values for the indicator "Annual average of daily success rates of transmission of data from meter to HES/MDMS" and for the threshold for meeting the annual targets for the implementation of the SMI set out in the SMI implementation calendar. For the annual average of the daily success rates in terms of data transmission, the limit is set at minimum 80%, the indicator being determined per transformation station. For cases where the indicator has values below this minimum limit, the depreciation and cost-effectiveness costs corresponding to the equipment providing the transmission of data for the respective transformer stations for that year shall be unrecognized, taking into account that the investment relating to the communication of data has not achieved its purpose and, thus, the related costs become unsubstantiated. It also provides for the obligation of the DSOs to meet 90% of the annual implementation targets stipulated in the calendar approved by means of Decision of the President of ANRE in force, namely the total number of users foreseen for integration, in compliance with all the areas planned for integration in the respective period;
- The manner in which to inform the user about the new conditions generated by integration into the SMI. Thus, the Annex containing the information that DSOs and the suppliers bring to the users' attention after the integration of the respective consumption places in the SMI completes the general conditions for the supply of electricity to the final customers of the last resort suppliers approved by means of ANRE Order no. 88/2015, with subsequent amendments and completions.

4.5.2 Monitoring of the SMI implementation process

The analysis of activities and results of the implementation of smart electricity metering systems (SMIs) by the end of 2020 revealed the need for changes to the Regulation setting the framework conditions for the implementation of the smart electricity metering systems at the level national. Thus, the context created by the restrictions imposed by normative acts, in order to limit the effects of the pandemic, created issues in the

implementation process of the SMI. Direct interaction with users targeted by the implementation calendar provided for under the Framework conditions and the signing of the agreement on the use of personal data collected by means of smart electricity metering systems had become a very difficult, sometimes unsolvable issue, and this has caused delays and additional costs in what concerns the SMI implementation process.

Analysis of the results recorded in 2019 and 2020 by monitoring the SMI implementation process at national level according to the SMI implementation calendar, approved by means of *ANRE President Decision no. 778/2019 on the approval of the calendar for the implementation of smart electricity metering systems at national level for the period 2019-2028* (Decision no. 778/2019), highlighted the need to create levers to stimulate the achievement of the objectives set in the regulations regarding the implementation of the SMI in Romania. Thus, both in terms of the level of technical performance, as well as in terms of the pace of implementation and the fulfilment of the obligations stipulated in the regulations for the implementations made in 2019 and 2020, very different results were recorded amongst operators, and performances were below expectations in what concerns the implemented systems. Also, differences in the costs of electricity metering equipment were noticed in what concerns integrated and non-integrated variants in the SMI, affecting the condition of economic efficiency and return on investment by the way in which the provision on the equipment of new consumption/production and consumption sites connected to distribution of electricity is regulated, in order to ensure the metering of electricity consumption/production.

As a result, in 2021, the amendment and completion of *ANRE Order no. 177/2018 on the approval of the Framework conditions for the implementation of the calendar of smart electricity metering systems at national level* was made, by means of *ANRE Order no. 94 of 18.08.2021 regarding the amendment and completion of the Framework conditions for the achievement of the calendar for the implementation of the smart electricity metering systems at national level, approved by means of Order of the National Energy Regulatory Authority no. 177/2018 and for the amendment of the Order of the National Energy Regulatory Authority no. 88/2015 approving the framework contracts for the supply of electricity to household and non-household customers of last resort suppliers, the general conditions for the supply of electricity to final customers of last resort suppliers, the template of the electricity bill and the template of the electricity consumption agreement, used by suppliers of last resort*. The amendments and additions to the existing regulations have introduced new performance indicators and reporting methods, aimed at stimulating both the achievement of the implementation level assumed by the SMI implementation calendar approved by means of Decision no. 778/2019, and the confirmation by the commissioned systems of expected technical performance.

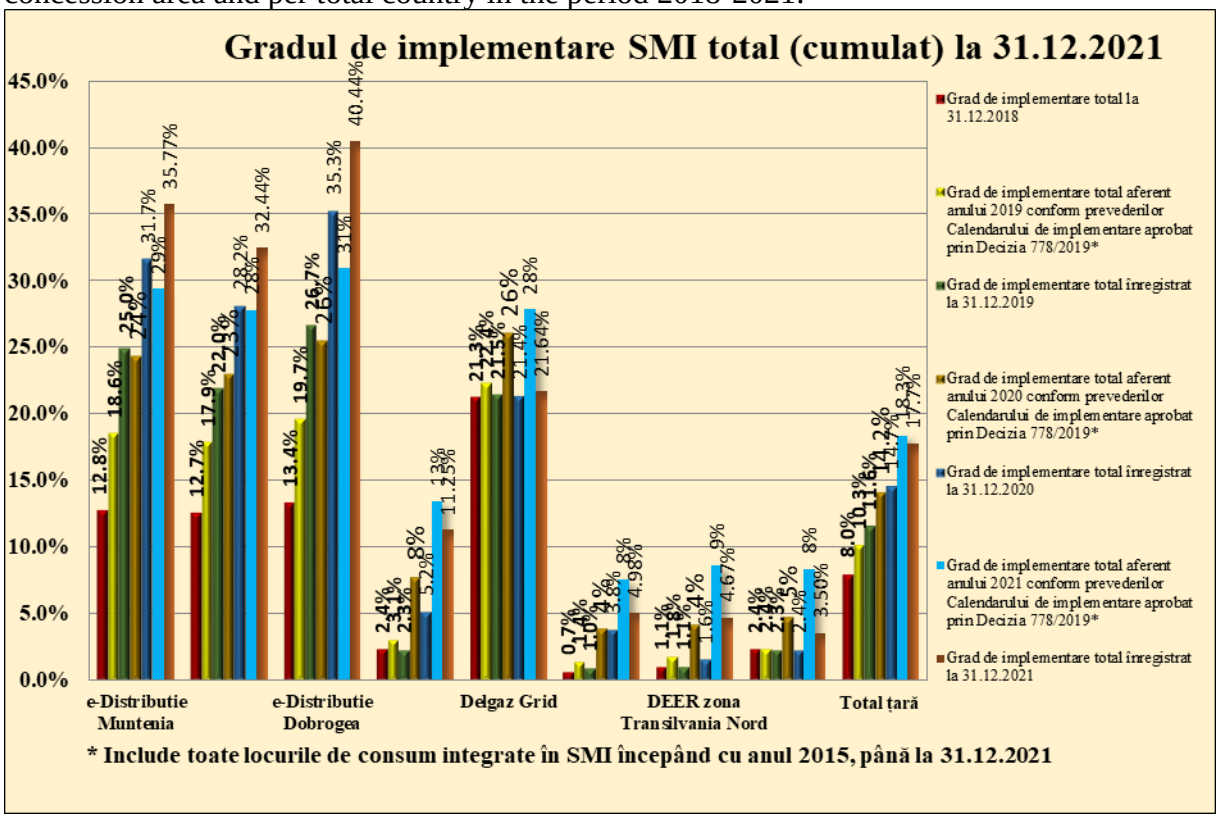
At the end of 2021, 18% of users connected to low voltage distribution networks integrated in SMI were registered in the country.

The table below shows the state of implementation of the SMI on each concession area of the electricity distribution service, the total degree of implementation of the SMI at country level and the degree of achievement of the SMI implementation calendar at the level of 2021.

Distribution services operator	Total number of users that should have been integrated into the SMI at the end of 2021, according to the CISMI approved by means of Decision	Total number of users integrated into the SMI by 31.12.2021	Total number of users as of 31.12.2021	Total implementation achieved as of 31.12.2021	Total degree of achievement of the implementation programs foreseen in the CISMI, as of 31.12.2021

	no. 778/2019				
	[1]	[2]	[3]	[4]=[2]/[3]	[5]=[2]/[1]
E-Distributie Muntenia	398,004	506,430	1,415,977	36 %	127 %
E-Distribuție Banat	260,735	305,598	942,049	32 %	117 %
E-Distributie Dobrogea	209,286	274,517	678,840	40 %	131 %
Distribuție Energie Oltenia	199,073	168,103	1,494,791	11 %	84 %
Delgaz Grid	420,940	331,699	1,533,056	22 %	79 %
DEER - Muntenia North area	97,947	65,952	1,324,324	5 %	67 %
DEER - Transilvania North area	108,883	61,917	1,325,828	5 %	57 %
DEER - Transilvania South area	106,897	41,883	1,198,176	3 %	39 %
Total per country	1,801,765	1,756,099	9,913,041	18 %	97 %

The chart below shows the status of the degree of implementation of the SMI in each concession area and per total country in the period 2018-2021:



Total SMI implementation degree (cumulated) as of 31.12.2021, Total implementation degree as of 31.12.2018, Total implementation degree related to 2019, as per the provisions of the Implementation calendar approved by means of Decision 778/2019, Total implementation degree registered as of 31.12.2019, Total implementation degree related to 2020, as per the provisions of the Implementation calendar approved by means of Decision 778/2019*, Total implementation degree registered as of 31.12.2020, Total implementation degree related to 2021, as per the provisions of the Implementation calendar approved by means of Decision 778/2019*, Total implementation degree registered as of 31.12.2021, Total country, *Includes all consumption sites integrated in the SMI as of 2015, until 31.12.2021*

The detailed results of the implementation of the SMI as of 31.12.2021 are presented in the Annual report on the state of implementation of smart electricity metering systems as of 31.12.2021 according to the Calendar for the implementation of smart electricity metering systems at national level for the period 2019-2028, approved by means of ANRE Decision no. 778/08.05.2019, published on the ANRE website.

NATURAL GAS SECTOR

1. EVOLUTION OF NETWORK TARIFFS

1.1. The development of the regulatory framework on methodologies for setting regulated tariffs in the field of natural gas throughout 2021

In accordance with the provisions of the *Law on electricity and natural gas no. 123/2012*, with subsequent amendments and completions and the *Law on petroleum no. 238/2004*, the price and tariff systems on the regulated gas market are established by ANRE.

The regulated activities related to natural gas systems for which ANRE issued normative acts and/or set regulated tariffs in 2021, based on the provisions of the Law in force during 2021 were the following:

- natural gas transmission,
- natural gas distribution.

For the purpose of implementing, as per the natural gas pricing methodologies, the provisions of the following documents:

- Law no. 155/2020 amending and supplementing the Law on electricity and natural gas no. 123/2012 and amending and supplementing other normative acts, which established that the costs of connecting household customers to distribution systems and non-household customers with a length of the connection installation of up to 2500 m to the transmission and distribution systems were included in regulated tariffs,
- Law no. 244/2020 on the approval of Government Emergency Ordinance no. 103/2020 for the extension of the period of application of the measures provided by Government Emergency Ordinance no. 26/2018 on the adoption of measures for the security of electricity supply, that the amount of the annual fee for the concession of the gas transmission and distribution service has changed,
- Law no. 290 of December 15th, 2020 on the approval of Government Emergency Ordinance no. 106/2020 for the amendment and completion of the Law on electricity and natural gas no. 123/2012, as well as for the amendment of certain normative acts, by means of which it was established that, in the event of the customer bearing the costs of connection to the distribution system, subsequent cost recovery is conducted within a period of 5 years,

ANRE approved **Order no. 1/2021** and **Order no. 100/2021** amending and supplementing the *Methodology for setting regulated tariffs for distribution services in the natural gas sector* approved by means of Order of the National Energy Regulatory Authority no. 217/2018 and **Order no. 2/2021** on the amendment of the *Methodology for establishing regulated tariffs for natural gas transmission services* approved by means of Order of the National Energy Regulatory Authority no. 41/2019, which introduced provisions on:

- adaptation of tariff methodologies to the aforementioned legal provisions and of the Regulation regarding the connection to the natural gas distribution system, approved by means of ANRE Order no. 18/2021,

- the manner in which to include, in distribution tariffs, the costs of the extension and connection to the distribution system,
- stimulation of investments, by attracting non-reimbursable European funds,
- adaptation of certain methodological provisions to the current conditions in the natural gas market related to the acquisition of natural gas to cover losses.

1.2. The natural gas transmission activity

1.2.1. Tariffs for natural gas transmission services by means of the national gas transmission system (SNT)

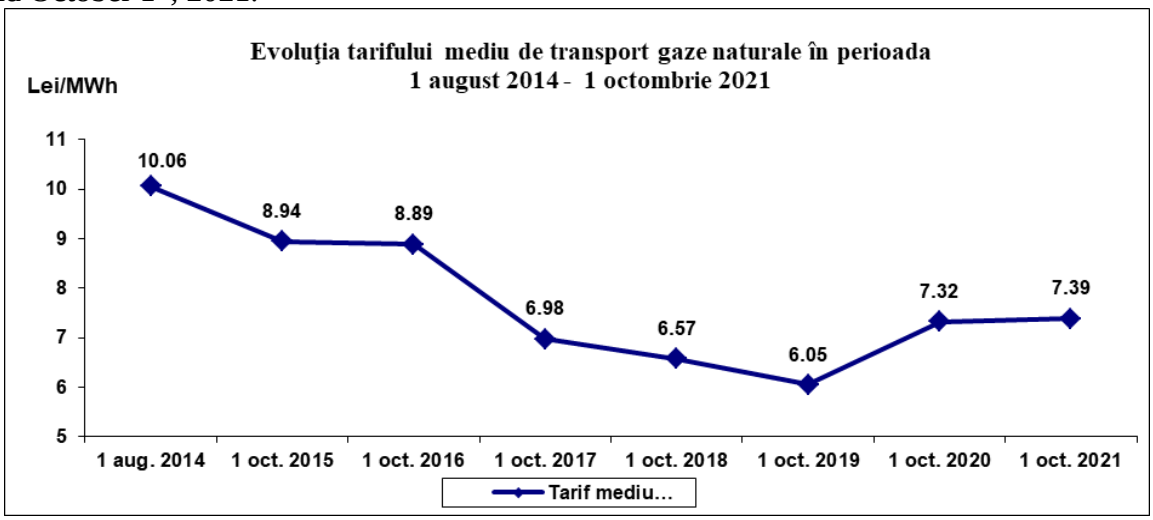
These tariffs shall be established according to the provisions of the *Methodology for establishing regulated tariffs for natural gas transmission services*, approved by means of ANRE Order no. 41/2019, and include a set of "entry/exit" tariffs, established for the group of entry points, that is to say for the group of exit points to/from the national gas transmission system, where capacity is reserved, as well as a volumetric tariff for the use of SNT determined as a postage stamp tariff.

This system of tariffs ensures the achievement of the income allowed by ANRE in what concerns the transmission system operator, in order to cover the costs justified as being necessary for the performance of the natural gas transmission activity in one year of the regulatory period.

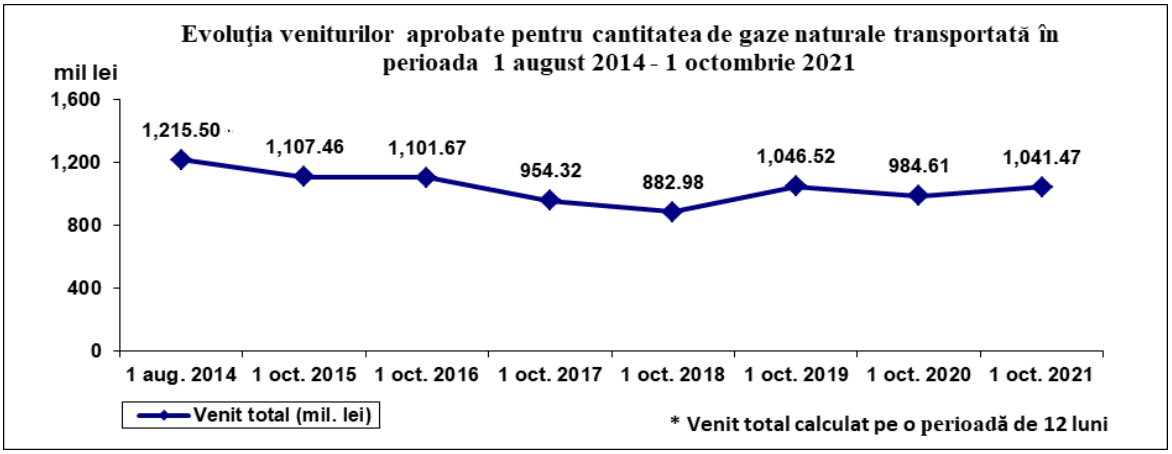
Tariffs for natural gas transmission services through SNT (except for the transmission pipelines Isaccea 2 – Negru Vodă 2 and Isaccea 3 – Negru Vodă 3, for which separate tariffs apply) charged between October 1st, 2021 and September 30th, 2022 by SNTGN Transgaz S.A., were calculated on the basis of the mentioned methodological provisions and were approved by means of **ANRE Order no. 32/2021**, with validity until September 30th, 2022.

Thus, the capacity reservation tariffs related to the firm and interruptible long-term and short-term transmission services were approved for the group of entry/exit points (gr), as well as the volumetric tariff for the use of the national transmission system, for the third regulatory year, October 1st, 2021 – September 30th, 2022, of the fourth regulatory period.

The following tables show the annual development of the average transmission tariff and the regulated income for the gas transmission service approved between August 1st, 2014 and October 1st, 2021.



Development of the average natural gas transmission tariff between August 1st, 2014 and October 1st, 2021, Average tariff



*Development of income approved for the natural gas quantity transmitted between August 1st, 2014 and October 1st, 2021, Total income, *Total income calculated for a 12 month period*

1.2.2. Tariffs for natural gas transmission service by means of the natural gas pipeline Isaccea 2 - Negru Vodă 2 and Isaccea 3 - Negru Vodă 3

ANRE approved by means of Order no. 92/2021 the extension of the term stipulated in the Order of the National Energy Regulatory Authority no. 149/2020 regarding the approval of the total income and transmission tariffs for the natural gas transmission activity on the natural gas transmission pipeline Isaccea 2 - Negru Vodă 2 and the establishment of measures concerning its applicability, including for the natural gas transmission pipeline Isaccea 3 - Negru Vodă 3.

This order was issued in light of the fact that:

- In December 2020, by agreement of the parties, the termination of the application of the provisions of the historical contract concluded between SNTGN Transgaz SA and Gazprom Export LLC (GPE) for the transmission of natural gas through the T3 transit pipeline on the territory of Romania to third countries was agreed, starting with January 1st, 2021, contract valid until 31.12.2023,
- Since 2020, there has been no physical flow of natural gas through the two T2 and T3 transit pipelines,
- At the time of approval of the Order, there were no interconnection/technical agreements concluded with the adjacent TSOs and no real prospect of their conclusion or regarding the natural gas transmission through the pipeline Isaccea 2 - Negru Vodă 2 and Isaccea 3 - Negru Vodă 3.

1.2.3. Tariffs for connection to the natural gas transmission system

In 2021, the connection to the SNT was financed by the transmission system operator, according to the amendments made to Art. 130, Art. 148 and Art. 151 of the Law on electricity and natural gas no. 123/2012 by means of Law no. 155/2020; the connection costs are included in the regulated gas transmission tariffs.

1.3. Storage activity

Having regard to the provisions of Article 179(2)(g) of the Law on electricity and natural gas no. 123/2012, as amended by means of Law no. 155/2020, according to which, after the end of the extraction cycle 2020-2021, more precisely as of April 1st, 2021, the underground storage of natural gas is no longer part of the regulated market, ANRE issued **Order no. 21/2011** for the abrogation of the Order of the President of the National Energy Regulatory Authority no. 14/2019 regarding the approval of the *Methodology for establishing*

regulated tariffs for the provision of underground gas storage services. Following this abrogation, gas storage operators have the right to set competitive prices for this activity.

In accordance with the same legislative amendment, ANRE approved by means of **Order no. 93/2021** the amendment of the *Regulation on the accounting separation of the activities carried out by the holders of licenses in the natural gas sector*, approved by means of ANRE Order no. 21/2020, in order to shift the underground gas storage activity from the regulated activities of the natural gas sector to those not regulated in terms of setting the tariffs for the provided service.

1.4. Natural gas distribution activity

The tariff system for the natural gas distribution activity includes differentiated tariffs per category of customers, for each of the licensed distribution operators, established on the basis of the *Methodology for establishing regulated tariffs for distribution services in the natural gas sector,* approved by means of ANRE Order no. 217/2018, with subsequent amendments and completions.

In 2021, the categories of customers for which distribution tariffs, transit tariff and proximity distribution tariff were differentiated, read as follows:

1. Customers differentiated per annual gas consumption:

	Annual consumption of natural gas (MWh)	
Customer category	**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 benefiting from the proximity distribution tariff – C.6;
3. Customers benefiting from the transit distribution tariff – C.7.

1.4.1 Development of gas distribution tariffs

In accordance with the provisions of the methodology in force, a number of 31 operators submitted to ANRE the documents containing the adjustment data for regulated revenues, as well as the proposals for regulated tariffs for 2021, in order for the latter to analyse them and approve the tariffs for the period between July 1st, 2021 and June 30th, 2022.

Thus, regulated tariffs were set for the provision of the regulated gas distribution service for the economic operators in the natural gas sector by means of the issuance of **ANRE Orders no. 55 to 80/2021**.

For the two large natural gas distribution operators, the company DISTRIGAZ SUD REŢELE S.R.L. and the company DELGAZ GRID S.A , starting with July 1st, 2021, the distribution tariffs approved by means of:

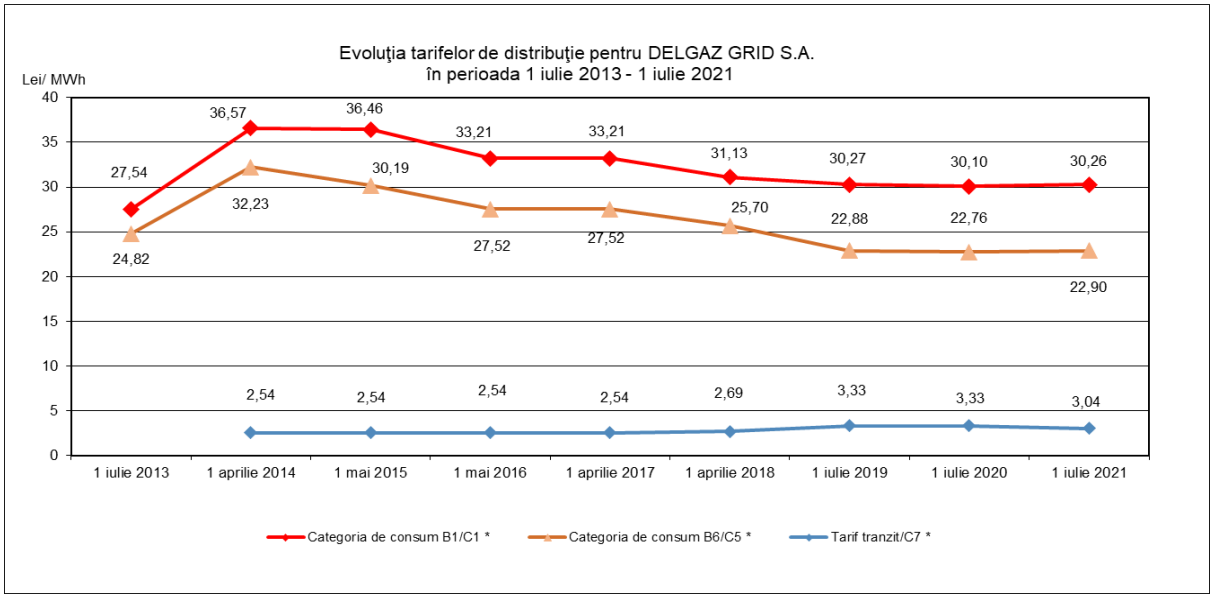
- **ANRE Order no. 44/2021** regarding the establishment of regulated tariffs for the provision of the natural gas distribution service carried out by DISTRIGAZ SUD REȚELE S.R.L., entered into force, as follows:

Consumer class	Minimum annual consumption MWh	Maximum annual consumption MWh	Distribution tariffs RON/MWh
C.1.		≤ 280	30.13
C.2.	> 280	≤ 2,800	28.38
C.3.	> 2,800	≤ 28,000	27.05
C.4.	> 28,000	≤ 280,000	20.87
C.5.	> 280,000		10.53
C 6.	Customers benefiting from the proximity distribution rate		5.00

- **ANRE Order no. 43/2021** regarding the establishment of regulated tariffs for the provision of the natural gas distribution service carried out by DELGAZ GRID S.A., entered into force, as follows:

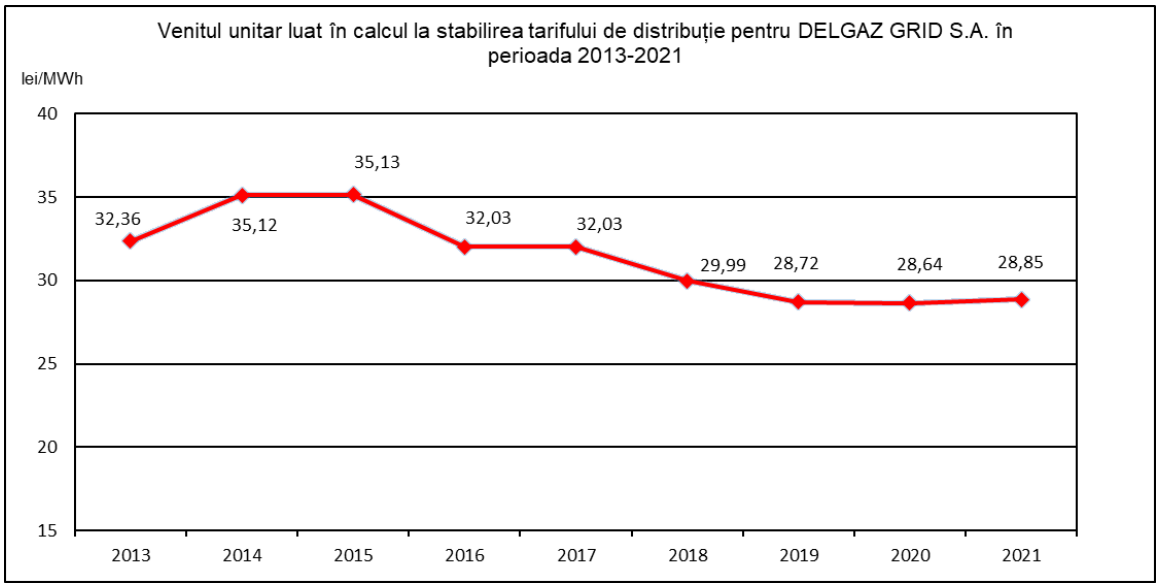
Consumer class	Minimum annual consumption MWh	Maximum annual consumption MWh	Distribution tariffs RON/MWh
C.1.		≤ 280	30.26
C.2.	> 280	≤ 2,800	28.61
C.3.	> 2,800	≤ 28,000	26.23
C.4.	> 28,000	≤ 280,000	24.25
C.5.	> 280,000		22.90
C.7.	Customers benefiting from the transit distribution tariff		3.04

The graphs below show the annual development of gas distribution tariffs and regulated revenues for the two licensed operators that distribute natural gas to more than 100.000 customers, between July 1st, 2013 and the present time.

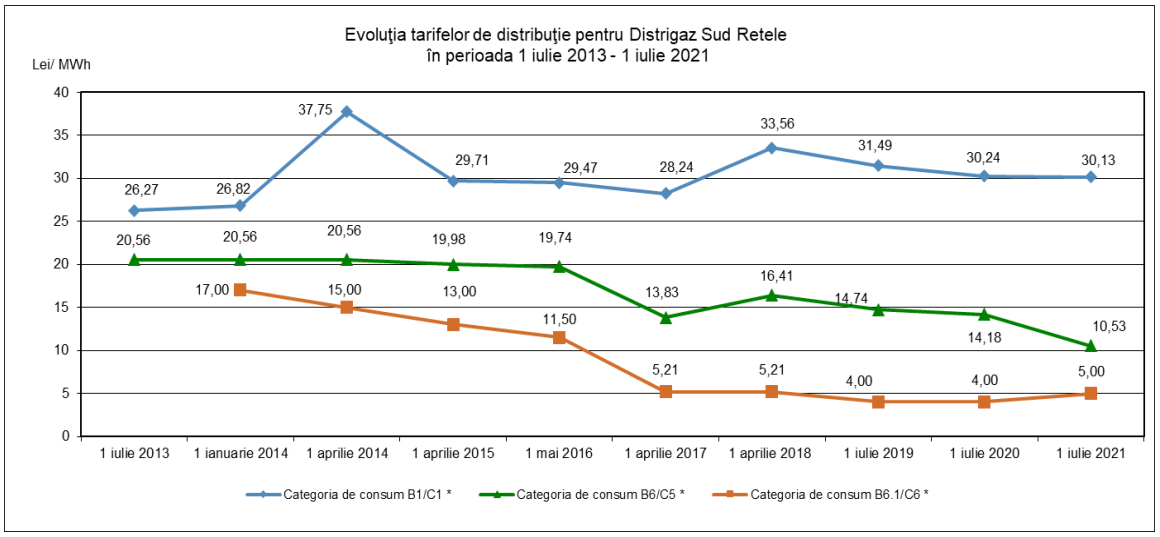


Development of distribution tariffs for DELGAZ GRID SA between July 1st, 2013 and July 1st, 2021

** As of July 1st, 2019, the categories of consumers for whom distribution tariffs are approved have been modified, so that they can come closer to the consumption bands provided in Regulation (EU) 2016/1952 of the European Parliament and of the Council of October 26th, 2016 on European statistics on natural gas prices*

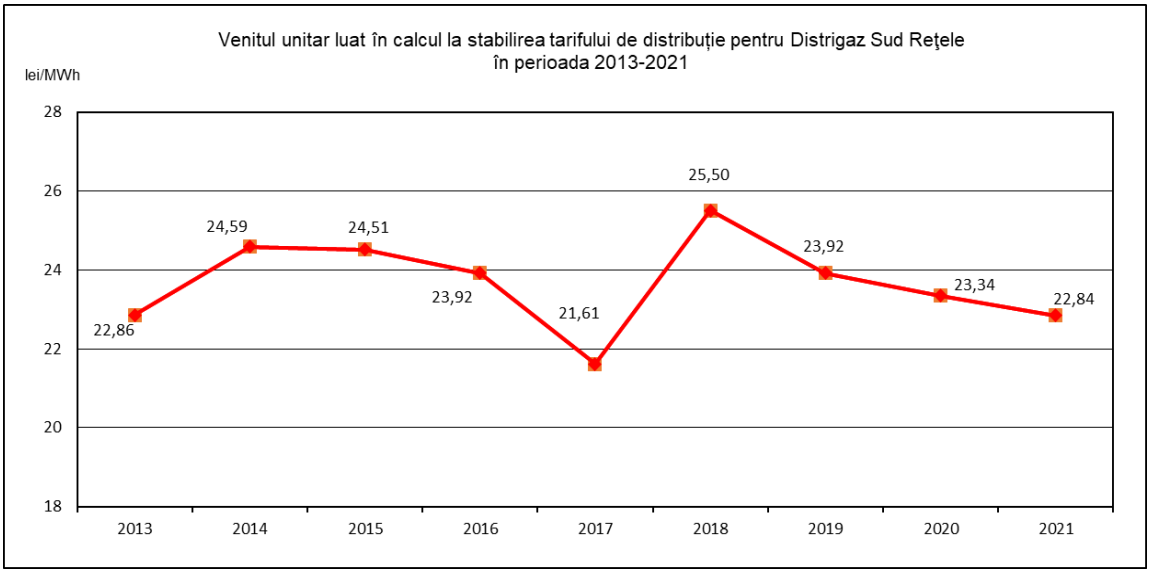


Total unitary income calculated when establishing the distribution tariff for DELGAZ GRID SA in 2013-2021



Development of distribution tariffs for Distrigaz Sud Retele between July 1st, 2013 and July 1st, 2021, B1/C1 consumption category, B6/C5 consumption category, B6.1/C6 consumption category

** As of July 1st, 2019, the categories of consumers for whom distribution tariffs are approved have been modified, so that they can come closer to the consumption bands provided in Regulation (EU) 2016/1952 of the European Parliament and of the Council of October 26th, 2016 on European statistics on natural gas prices*



Unitary income calculated when establishing the distribution tariff for Distrigaz Sud Retele in 2013-2021

1.4.2 Distribution systems' connection tariffs

In 2021, according to the provisions of Law no. 155/2020 amending and supplementing the Law on electricity and natural gas no. 123/2012, the connection of applicants to the natural gas distribution systems was free of charge, except for the connection of non-household final customers on the territory of the administrative-territorial unit for which the NO benefits from the public distribution service concession, whose extension and connection installation exceeds the length of 2,500 meters. The costs related to the works for the achievement of the objectives/pipelines necessary for connecting the consumers located within the perimeter of the administrative-territorial unit for which the public distribution service was transferred were financed by the distribution operators and will be recognized in the regulated tariffs. Therefore, throughout 2021, regulated connection tariffs were not applied.

2. MONITORING OF INVESTMENTS IN NATURAL GAS NETWORKS(NETWORK EXPANSIONS, INVESTMENT PLANS, CORRELATION BETWEEN 10-YEAR PLANS, PCIs AND NATIONAL PLANS)

2.1. The development of the regulatory framework throughout 2021

Throughout 2020, the Romanian Parliament issued Law no. 155, which brought significant amendments and additions to the *Law on electricity and natural gas* no. 123/2012. As regards the investment activity of the operators of natural gas systems, obligations related to the investments they have to carry out were included in said Law. Thus, the operators were obliged to finance the pipeline extension works and the necessary connections for connecting consumers located within the administrative-territorial unit for which the service was transferred, setting a limit on the length of the connection installation for non-household consumers. Local public authorities were no longer entitled to participate in the co-financing of the expansion of the system in the areas assigned by the operator, as the law obliged operators to fully cover, from own sources, the cost of the network expansion works. At the same time, the assigned area was extended to all localities belonging to an administrative-territorial unit. Recovery of the costs of connection to the transmission system, namely connection to the distribution system of household and non-household customers with the length of the connection installation less than 2500 m must be achieved through the

transmission and distribution tariffs according to ANRE regulations. In the case of the use of third-party property for the performance of the transmission or distribution service, the operator has the right, with the consent of the owner, to take these assets into the operator's property within the limit of their efficiency rate, established according to ANRE regulations.

ANRE harmonized the regulatory framework throughout 2020 with the new provisions of the above-mentioned primary legislation, by means of ANRE Order no. 204/2020, ANRE Decision no. 2288/2020 and ANRE Order no. 95/2020.

The regulatory framework, thusly correlated with the provisions of the law, was applied throughout 2021.

Having regard to the transfer of the connection works to the network operators, which had to be carried out within the time limit provided for by the new amendments to Law no. 123/2012, ANRE approved by means of **Order no. 20/2021** the amendment and completion of the *Procedure regarding the substantiation and criteria for the approval of the investment plans of the transmission system operators, distribution and storage of natural gas, as well as of the LNG terminals*, approved by means of ANRE Order no. 38/2019. According to the approved amendments, the design and execution of the network extension and the final consumer connection installation, which the network operators are required to finance and implement in accordance with the legal provisions in force, are carried out in addition to the annual investment plan undertaken by each operator for the current year. Also, changes were made that simplified the reporting process to ANRE, in the sense that all documents provided for by the procedure are transmitted electronically, including by uploading to the platform dedicated to this purpose from the ANRE website, as soon as said platform will become available.

The monitoring of investments in natural gas networks and the technical status of the systems is presented in the Report on the achievement of performance indicators for the transmission and system service and distribution and system service of natural gas in the gas year 01.10.2020 - 30.09.2021 and the technical status of the natural gas transmission and distribution systems - 2021 -, published on the ANRE website at: https://www.anre.ro/ro/gaze-naturale/rapoarte/rapoarte-indicatori-de-performanta.

2.2. Monitoring of the development plan for the national gas transmission system

The transmission system operator (TSO) shall draw up the ten-year development and investment plan, on the basis of the national strategy and the European development plan developed by ENTSOG, in line with the current state and future evolution of natural gas consumption and sources, including imports and exports of natural gas, in compliance with the principles set out in *Directive 2009/73/EC of the European Parliament and of the Council of July 13th, 2009 on common rules for the internal market in natural gas and repealing Directive 2003/55/EC*, including investments in projects of common interest. They have a cross-border impact on the system's interconnection capacity and benefit from certain facilities, including non-reimbursable funding, granted at national and European level.

The TSO has carried out a national assessment of the adequacy of transmission system capacities, in accordance with Article 8(4) of *Regulation (EC) no. 715/2009 of the European Parliament and of the Council of July 13th, 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) no. 1775/2005*. This confirmed the need for major cross-border projects and methods to integrate them into the European network. The implementation of these projects is decided in correlation with the development of natural gas sources and demand for consumption, as well as with the results of market tests carried out by the operator.

The development plan of the national gas transmission system for the period 2020-2029 (*PDSNT 2020-2029*) developed by S.N.T.G.N. Transgaz S.A., acting as TSO, was approved by means of ANRE Decision no. 2210/25.11.2020.

The total value of the major/strategic SNT projects included in the plan for the period 2020-2029 totals approximately EUR 4.12 billion, of which: major projects with FID status (projects whose implementation was decided) at the time of approval of the plan had a total value of EUR 766.34 million, major projects with non-FID status (advanced projects whose implementation has not been decided) had a total value of EUR 502.31 million, and major projects with non-FID status (early stage projects, the implementation of which has not yet been decided) had a total value of EUR 2.852 billion. The funding was to be provided at a rate of approx. 32 % of TSOs' own resources recovered through the regulated transmission tariff and approx. 68 % from borrowed and non-refundable sources.

The projects of common interest from Romania included in the Development plan of the European gas transmission network TYNDP 2020 have an estimated total value of approx. EUR 1.13 billion.

The status on 31.12.2021 of the major gas transmission projects covered by the PDSNT 2020-2029 submitted by the TSO in the *Report on the progress of the projects from the 10-year investment and development plan approved by ANRE*, in accordance with its obligation under Article 40(2) of the *Procedure on the substantiation and criteria for the approval of investment plans of transmission system, distribution system and storage of natural gas operators, as well as LNG terminals*, approved by means of ANRE Order no. 38/2019, with subsequent amendments and completions, the following table is highlighted:

Name of the project	**Works included**	**Status**
***Development on the territory of Romania of the National Gas Transmission System (SNT) along the Corridor Bulgaria - Romania - Hungary - Austria* BRUA - Phase 1**	Construction of 479 km pipeline on the Podișor–Recaș route and of 3 compression stations Podișor, Bibești and Jupa, ensuring the bidirectional flow of natural gas.	Completed project, the acceptance at the end of the works took place on August 16th, 2021.
***Development on the territory of Romania of the National Gas Transmission System (SNT) along the Corridor Bulgaria - Romania - Hungary - Austria* BRUA - Phase 2**	Construction of 50 km pipeline on the Recaș - Horia route and amplification of the capacity of the 3 compression stations from Podișor, Bibești and Jupa and SMG Horia station.	The technical project and technical documentation for obtaining building permits have been completed The completion of phase II depends on a successful market testing process in 2022, according to the provisions of the Network code on capacity allocation mechanisms (CAM NC). If the market test is passed, commissioning is expected to take place in 2024.
***Development of the Southern Transmission Corridor for the takeover of natural gas from the Black Sea shore**, in correlation with the achievement schedules of offshore upstream projects.*	The construction of 308.3 km of pipeline on the direction of Tuzla – Podișor, which connects the natural gas sources available from the Black Sea shore and the BRUA corridor. It will interconnect with the international transmission pipeline T1	The execution contract was concluded, and will take place between 2022 and 2024, commissioning is scheduled in 2024, conditional on the final investment decision.
Interconnection of SNT with the international gas transmission pipeline T1 and reverse flow Isaccea	Works of interconnection of the SNT to the international transit pipeline T1, in the SMG Isaccea area and repair works of the 66 km Cosmești – Onești pipeline. Modernization works of the Siliștea, Onești, Șendreni stations.	Project completed and commissioned in 2020

Developments in the North-East area of Romania, in order to improve the supply of natural gas and to ensure transmission capacities to/from the Republic of Moldova.	Construction of a transmission pipeline in the direction of Onești-Gherăești, 104.1 km long, Construction of a transmission pipeline in the direction of Gherăești-Lețcani, 61.05 km in length, Construction of two new gas compression stations in Onești and Gherăești	Project completed and commissioned in 2021, works of land restoration and pipeline automation remain to be executed.
Amplification of the two-way transmission corridor Bulgaria - Romania - Hungary - Austria BRUA phase 3	Rehabilitation/replacement of existing pipes belonging to the SNT; construction of new pipes installed in parallel with existing pipes; development of 4 or 5 new compression stations with a total installed capacity of approx. 66-82.5MW; The increase in natural gas transmission capacity to Hungary is achieved by 4.4 billion m3/year.	The pre-feasibility study on the development of this natural gas transmission corridor has now been developed. In order to optimize and streamline the implementation process and attract non-reimbursable financing, the corridor was divided into two projects. 1. Ensuring the reversible flow on the Romania–Hungary interconnection 2. Development of SNT between Onești and Băcia: The expected completion date is 2026
New developments of the SNT, in order to take gas from the Black Sea shore of Vadu-T1 in the town of Grădina, Constanța County	Construction of 25 km pipeline from the Black Sea coast to the T1 international transmission pipeline, with a transmission capacity of 1.23 billion m3/year, according to the "open-season" process.	Project completed and commissioned in 2021.
Interconnection Romania–Serbia (non-FID A project)	Construction of a new interconnection pipeline in Recaș–Mokrin direction in length of approx. 97 km of which approx. 85 km on the territory of Romania and 12 km on the territory of Serbia. The pipe will connect to BRUA phase I. Construction of a natural gas metering station (located on the territory of Romania).	The procedure for the acquisition of the execution works has been initiated. The expected completion date is 2024
Modernization of SMG Isaccea 1 and SMG Negru Vodă 1	Reengineering of gas metering stations in two-way mode SMG Isaccea 1 and SMG Negru Vodă 1.	SMG Isaccea 1 - project finalised in 2021. The reengineering of SMG Negru Vodă 1 has been eliminated following the connection to the SNT of the T2 pipeline
Interconnection of the SNT with Ukraine, on the direction Gherăești – Siret	Construction of a 146 km long transmission pipeline and related installations in the direction Gherăești - Siret; The construction of a cross-border gas metering station; Amplification of Onești and Gherăești compression stations, if applicable.	Work eliminated after consultation with the Ukrainian side, as a result of the analysis of the load level of the existing infrastructure
Development/reengineering of the natural gas transmission infrastructure in the North-West area of Romania	**Stage 1:** Construction of the transmission pipeline and related installations, on the Horia–Borș direction. **Stage 2:** Construction of the transmission pipeline and related installations, on the Borș–Abrămuț direction; Building of a compression station in Mediești Aurit; Construction of the transmission pipeline and related installations, on the Huedin–Aleșd direction. **Stage 3:** Construction of the transmission pipeline and related installations, on the Abrămuț – Mediești Aurit direction; Construction of the transmission pipeline and related installations, on the Sărmășel – Mediești Aurit direction.	For each of the three stages, pre-feasibility studies have been concluded and feasibility studies are being completed. The completion deadline is scheduled for 2024 for stage 1, 2025 for stage 2 and 2026 for stage 3.
Increasing the natural gas transmission capacity of the Romania-Bulgaria interconnection on the Giurgiu-Ruse direction	Construction of a new transmission pipeline and related installations; Construction of a new undercrossing on the Danube; Giurgiu SMG amplification.	The expected completion date is 2027.

Eastring-Romania	Construction of a two-way flow interconnection pipeline with an annual capacity between 20 billion m3 and 40 billion m3 connecting Slovakia with the EU external border through Hungary, Romania and Bulgaria, according to the feasibility study concluded in 2018.	The feasibility study according to which the project implementation will be carried out in two phases has now been completed, as follows: Phase 1 – maximum capacity of 20 billion m3/year; completion deadline 2027, Phase 2 – maximum capacity of 40 billion m3/year, completion deadline 2030.
Monitoring, control and data acquisition system for SNT-related cathodic protection stations	Implementation of the centralized acquisition, command and monitoring system for cathodic protection stations.	Project in the design phase, completion deadline 2026
SCADA system development for SNTGN	Modernization of SCADA system in decentralized architecture	Project at the stage of elaboration of the feasibility study, deadline for completion 2024
Reengineering of SMG Isaccea 2 and SMG Negru Vodă 2 in order to achieve bi-directional flow on the T2 pipeline	Reengineering of stations to ensure bi-directional flow at the border with Ukraine and Bulgaria on the T2 transit pipeline.	The project is in the process of developing the feasibility study and will be developed according to the results of the assessment of the market demand for incremental capacity for the interconnection points located on the T2 and T3 pipelines on the Bulgarian-Romanian-Ukrainian (trans-Balkan corridor) transmission direction. The expected completion date - 2024
Modernization of SMG Isaccea 3 and Negru Vodă 3, in order to achieve bi-directional flow on the T3 pipeline	Modernization of stations to ensure bi-directional flow at the border with Ukraine and Bulgaria on the T3 transit pipeline.	The project is in its infancy and will be developed according to the results of the assessment of the market demand for incremental capacity for interconnection points located on the T2 and T3 pipelines in the Bulgarian – Romanian – Ukrainian (trans-Balkan corridor) transmission direction. The expected completion date - 2028
Interconnection of the SNT to the LNG Terminal located on the Black Sea shore	The interconnection of the SNT to the LNG terminal by building a transmission pipeline, about 25 km long, from the Black Sea coast to the T1 and T2 pipelines.	The project is in its early stages. The expected completion date is 2028
Reengineering of the storage system in the Bilciureşti warehouse	Increasing the daily delivery capacity through the reengineering of the Bilciureşti warehouse, the modernization of the Butimanu station, the modernization of 39 injection/extraction wells, the drilling of 4 new wells, 11 km pipeline between the Bilciureşti storage facility and SC Butimanu.	The work is carried out in a step-by-step manner, in 2021, drying, automation, control and measurement systems were completed within the surface technological installations. The technical project for drilling 4 injection/extraction wells was completed, the public procurement for the suction/discharge collector target was completed at Butimanu station. Completion date 2025
Increase of the underground storage capacity at the Gherceşti warehouse	Increase of the daily delivery capacity by upgrading the Gherceşti storage system with the construction of new compression, metering, drying stations, reengineering of 20 injection-extraction wells and interconnection with SNT.	In 2021, the feasibility study was developed, the execution phase will start in 2022. Completion date 2023
New underground storage of natural gas in Fălticeni	Increase of the storage capacity to ensure the security of natural gas supply by transforming one or more depleted fields between Pocoleni, Comăneşti, Todireşti or Devideni into	The specifications for the procurement of feasibility study development services have been finalized. The expected completion date is 2030.

	underground storage spaces, building compression, metering, drying, injection-extraction wells and interconnection with SNT.	
Increase of the underground storage capacity at the Sărmășel storage facility	Development of the Sărmășel storage facility, increase of storage capacity, injection and extraction capacity, by extending existing installations with the following objectives: • drilling 38 new wells; • 48.6 km adduction pipeline; • 8 groups of wells; • 19.2 km collection pipes; • 3 compression units; • 2 gas drying plants; • Separation and metering facility (ISM); • Renewable energy production system; • Connection to SNT.	In 2021, works were carried out on extraction compressors and wells. Completion date 2026.
Storage Unit – Depomureş	The refurbishment and development of the underground storage facility Târgu-Mureș by increasing the storage capacity and the daily injection/extraction capacity via: - central gas station, - storage collector, - increase in operating pressure, - new wells.	Completion date 2023.

2.3. Monitoring the achievement of the annual investment plans of the transmission system operator for natural gas

The following table shows the total values, in RON, of the works carried out by the transmission system operator and financed from own resources in 2021, compared to the value of the investment plan assumed by the TSO for 2021.

Work code	**Work type**	**PLAN - Value [RON]**	**ACHIEVED - Value [RON]**	**Achievement degree [%]**
	Total value, of which	**1,105,461,824**	**807,940,772**	**73 %**
	Financing from non-refundable funds	**214,496,027**	**203,481,465**	**95 %**
	Own funds financing, of which:	**891,095,462**	**604,459,307**	**68 %**
A	**Expansion/development**	**759,732,473**	**520,456,987**	**69 %**
A1	Expansion/development in the assigned area	0		
A2	Expansion/development for new concessions	0		
A3	System capacity increase	759,732,473	520,456,987	69 %
A4	Strategic objectives expansion	0		
B	**Relocation of objectives**	**0**		
C	**Modernization**	**59,751,447**	**19,936,316**	**33 %**
C1	Reengineering and upgrading of pipes, connections, adjustment and metering stations	51,349,107	19,399,121	38 %
C2	Periodic replacements of metrologically expired meters	0	0	
C3	Cathodic protection installations	556,077	421,437	76 %
C4	Odorization installations	6,013,525	115,758	2 %
C5	SCADA equipment	1,832,738	0	0 %
D	**Replacement of assets following incidents and damage**	**0**	**0**	
E	**Take-over of assets from third parties**	**0**	**0**	

F	**Equipment purchase**	**69,651,019**	**62,105,481**	**89 %**
F1	Machinery	5,952,600	5,952,600	100 %
F2	Calculation method	7,042,953	7,292,281	104 %
F3	Computer programs	20,032,404	19,947,544	100 %
F4	Work equipment	27,656,138	24,732,172	89 %
F5	Improvement of working conditions	8,966,924	4,180,884	47 %
G	**Change of the supply solution**	**0**	**0**	
H	**New connections in the connection tariff**	**0**	**0**	
H1	Execution of connections	0	0	
H2	Meters for new users	0	0	
I	**Security and surveillance systems**	**1,960,523**	**1,960,523**	**100 %**

Thus, in 2021, SNTGN Transgaz SA made investments in the total amount of RON 807,940,772 from the plan assumed for this year, of which RON 604,459,307 from own sources and RON 203,481,465 financed from non-reimbursable European funds.

Of the total value of investments made with funding from own sources mentioned above, RON 540,393,303 represents the total value of tangible and intangible assets related to the system, namely 89% of the total achieved, the rest representing investments in equipment.

Among the most important assets commissioned in 2021, we list the following projects:

- Development of SNT in the North-East of Romania, in order to improve the natural gas supply of the area, as well as to ensure the transmission capacities to the Republic of Moldova, amounting to a total of RON 688.116 million, of which RON 484.634 million from own sources and RON 203.481 million from non-reimbursable European funds.
- New developments of SNT for the purpose of extracting gas from the Black Sea shore (Vadu-T1), worth RON 25.123 million, financed entirely from own sources;
- Works of access to SNT worth RON 4.920 million, fully financed from own sources;
- Refurbishment of pipes, connections, adjustment and measurement stations, worth RON 19.399 million, fully financed from own sources;
- Acquisition of equipment, namely automotive equipment, computer equipment, software, work equipment and for improving working conditions, security and surveillance systems, worth RON 64.066 million, fully financed from own sources.

The degree of achievement of the annual investment plan for 2021, established in accordance with the provisions of Article 34 paragraph (2) of the *Procedure* approved by means of ANRE Order no. 38/2019 by reporting the achieved value of tangible and intangible assets in the system of RON 540,393,303 to the planned value of RON 819,483,920, was 66%.

According to the *Procedure*, the degree of implementation of the investment plan for 2021 will be reviewed after the first 6 months of 2022, in which the operator is entitled to recover the investments not achieved in the previous year, making it mandatory to achieve a higher than 95% level of the planned investments in what concerns the system.

Regarding the fulfilment of the investment plan for 2020, TSO recovered in 2021 the outstanding investments from this plan in the amount of RON 735,783,624, so that the total value of the investments made out of those included in the investment plan for 2020 was RON 1,976,520,813, of which RON 1,437,072,052 from own sources and RON 539,448,761 from non-reimbursable sources. Direct investments in the system financed from own sources had a total value of RON 1,334,301,056, and those in equipment RON 102,770,995,

representing 7% of the total financed from own sources, given that the regulatory framework allows 15% investments in equipment.

By reporting the value financed from own sources of direct investments in the system made according to the investment plan assumed for 2020, of RON 1,334,301,056 at their assumed plan value, of RON 1,219,525,324, the degree of achievement of the investment plan for 2020, established in accordance with the provisions of Article 34 (2) of the *Procedure* approved by means of ANRE Order no. 38/2019 of 109%, which significantly exceeds the minimum mandatory level, totals 95%.

The most important investments related to the investment plan undertaken for 2020, which were recovered during 2021, were as follows:

- BRUA – phase I worth RON 256,505,149;
- Interconnection of the national transmission system with the international and reverse flow system at Isaccea 1 – phase II – modernization of SCG Onești and modernization of SCG Siliștea, worth RON 379,716,055;
- Replacement of the SMG gas metering station Isaccea 1, worth RON 81,139,380.

For 2022, SNTGN Transgaz SA forecast investments financed from own sources in a total amount of RON 120,256,841, of which investments in the system of RON 81,964,350 and investments in equipment worth RON 38,292,491.

Among the most significant objectives planned to be commissioned in 2022, the following projects can be listed:

- Mihai Bravu - Siliștea natural gas transmission pipeline and transformation into a pigging pipeline, worth RON 46,677,925;
- Works of access to the SNT, worth RON 16,066,478;
- Refurbishment of pipes, connections, adjustment and measurement stations, worth RON 6,244,304;
- Acquisition of equipment, namely automotive equipment, computer equipment, software, work equipment and for improving working conditions, security and surveillance systems, worth RON 38,292,491.

Also, TSO has sent to ANRE the intention to recover delayed investments since 2021 during the first semester of 2022, amounting to a total of RON 266,569,075, of which financed from own sources RON 255,554,513 and financed from non-reimbursable European funds RON 11,014,562.

Among the most significant targets planned to be recovered in 2022 of those planned in 2021, the following projects can be listed:

- Development of SNT in the North-East of Romania, in order to improve the natural gas supply of the area, as well as to ensure transmission capacities to the Republic of Moldova, totalling RON 175,899,536, of which RON 164,884,974 from own sources and RON 11,014,562 from non-reimbursable European funds;
- New developments of SNT for the purpose of taking gas from the Black Sea shore (Vadu -T1), worth RON 15,579,666;
- Mintia - Brad - Ștei transmission pipeline, stage I, worth RON 27,116,282;
- Refurbishment of pipes, connections, adjustment and metering stations, worth RON 34,523,899.

2.4. Monitoring of the achievement of the annual investment plans of natural gas storage operators

The total value of the investments planned in 2021 by DEPOGAZ was RON 40,159,793. Of this value, the tangible and intangible assets related to the storage system represented 97.6% and RON 39,188,743, respectively, the rest representing the acquisition of equipment. The conducted investments have a total value of RON 41,091,761, fully financed from own sources.

By reporting the achieved value of tangible and intangible assets in the system, in the amount of RON 39,662,390 to their planned value, of RON 39,188,743, the result was a degree of achievement of the investment plan in 2021 established in accordance with the provisions of Article 34 paragraph (2) of the Procedure approved by means of ANRE Order no. 38/2019, of 101.2 %. The most important works carried out were aimed at modernizing the storage facility in Bîlciurești.

For 2022, DEPOGAZ forecast investments in the total value of RON 22,081,000, of which RON 19,300,000 tangible and intangible assets intended for the system, mainly wells, installations and related infrastructure, representing 87.4% of the total.

The operator of the storage system DEPOMUREŞ planned in 2021 and fully achieved the planned land development investments in Corunca, consisting in the decoupling of rainwater collection and drainage ditches, uncovering, terracing and reinforcement of the land, the installation of concrete gutters for the collection and drainage of rainwater, worth RON 324,629.

For 2022, DEPOMUREŞ forecast investments in automation installations for opening valves at Târgu Mureș storage facility, worth RON 400,000.

2.5. Monitoring of the achievement of annual investment plans for natural gas distribution systems

The total value of investments made, namely the value of fixed assets resulting from investments made by the operators of distribution systems at national level in 2021, is RON 680,396,073, registering an increase of approx. RON 188 million, namely by approx. 38% compared to the value of investments made in 2020, which was approx. RON 492.5 million. Of the afore mentioned achieved value, RON 595,234,342 are direct investments in distribution systems and RON 85,161,731, representing 12.5% of the total, investments in equipment. This amount does not include the investments related to the proposed 2020 plan, which were recovered during 2021, in the legal period of 10 months. By reporting the value of investments made in assets belonging to the system, of RON 595,234,342 to their planned value, of RON 680,321,227, it is noted that the obligation to achieve the value of the plan assumed is met in a proportion of 87%, as established in accordance with the provisions of the regulatory framework, namely of Article 34 (2) of the Procedure approved by means of ANRE Order no. 38/2019. Considering the recovery of the delayed investments related to the investment plan of 2020, made in the first 10 months of 2021, according to the provisions of the regulatory framework, in a total amount financed from own sources of RON 36,749,506, the total value of investments made in 2021 totals RON 717,145,579.

As regards the investments of the two operators distributing to more than 100.000 users, namely S.C. Delgaz Grid S.A. and S.C. Distrigaz Sud Rețele SRL, made during 2021, according to the plans assumed for 2021, the total achieved value amounts to RON 662,847,745, of which the value financed from own sources is RON 603,639,631.

The value of direct investments in what concerns the assets of the system is RON 523,161,327, which, relative to the planned value, of RON 585,506,473, highlights a degree of achievement on December 31st, 2021 of the assumed plan of over 89 %, established in

accordance with the provisions of Article 34 paragraph (2) of the Procedure approved by means of ANRE Order no. 38/2019. The total value of the investments made by the two operators represents 88.7% of the total value of the investments made in the natural gas distribution systems at national level.

From the point of view of the structure of the value of investments made in 2021 by the two major distributors, 86.7% of the total represents the value of tangible and intangible assets belonging to the system, thus fulfilling the provisions of Article 22, paragraph (2) of the *Procedure* approved by means of ANRE Order no. 38/2019, with subsequent amendments and completions, according to which for DSOs distributing natural gas to more than 100.000 customers, the value of investments resulting in tangible and intangible assets belonging to the system must represent at least 85% of the total value of the annual investment plan.

In accordance with the provisions of Article 34 (2) of the above mentioned *Procedure*, the operator has the obligation to make annually, from own sources, investments that result in tangible and intangible assets belonging to the system amounting to at least 95% of their total value included in the annual investment plan approved by ANRE for that respective year. In this respect, following the analysis of ANRE, it was revealed that, of the 29 operators, 14 have already fulfilled the percentage condition imposed, with the remaining operators having the obligation to recover the unachieved investments in accordance with the provisions of Article 34(4) of the same *Procedure*, in the first 6 months of 2022.

The report reflecting the degree of the achievement of own-source investments undertaken by operators in the 2021 plans is summarized in the following table:

Operator	**TOTAL planned investments**	**TOTAL achieved investments**	**Total achievement degree**	**Planned SYSTEM investments**	**Achieved SYSTEM investments**	**Achievement degree of system investments**
	(million RON)	**(million RON)**	**(%)**	**(million RON)**	**(million RON)**	**(%)**
Distrigaz Sud Rețele	411.104	360.737	94.9	216.663	203.807	94.4
Delgaz Grid	255.989	242.903	87.7	368.843	319.354	86.6
Others (29 DSOs)	106.848	76.756	71.8	94.815	72.073	76.0
TOTAL	**773.940**	**680.396**	**87.9**	**680.321**	**595.234**	**87.5**

In order to assess **the achievement degree of the investment plans for 2021**, the total amount of investments made by operators throughout 2021 did not include the recovered works and those included in the investment plan of 2020, yet commissioned in 2021, within the legal recovery term of 10 months.

Thus, as regards the degree of achievement of the investment plans for 2020, the situation is presented in the following table:

Operator	**Investments planned for 2020**	**Investments achieved in 2020**	**Investments recovered in 2021**	**TOTAL investments for 2020**	**Degree of achievement of system investments, according to Article 34 of the Procedure**
	(million	**(million**	**(million**	**(million RON)**	**(%)**

	RON)	RON)	RON)		
Distrigaz Sud Rețele	224.952	205.978	19.652	225.630	96.9
Delgaz Grid	180.308	175.563	4.087	179.650	100.0
Others (29 DSOs)	75.866	71.454	13.011	84.465	112.5
TOTAL	**481.126**	**452.995**	**36.750**	**489.745**	**100.7**

For 2022, distribution system operators have proposed to make investments totalling approx. RON 990,572,717, the value from own sources being RON 886,280,702 and the value financed from non-reimbursable funds being RON 104,292,015. Thus, the total value planned by the operators for 2022 registers an increase of approx. 14%, compared to the total value of the plans for 2021, i.e. RON 773,940,459. Of this, RON 817,603,756 represents the value of direct investments in the system, more precisely over 92% of the total.

The two largest operators, Distrigaz Sud Rețele and Delgaz Grid, have scheduled for 2022 investments totalling approx. RON 839,294,187, of which RON 755,087,516 are financed from own sources. The direct investments in the system planned by these operators have a total value financed from own resources of RON 694,946,799, representing 92% of the total. The two operators have scheduled for 2022 over 85% of the total value scheduled for 2022 by all the operators of natural gas distribution systems in Romania.

3. ASPECTS RELATED TO TECHNICAL OPERATION (TECHNICAL STATUS AND NETWORK MAINTENANCE, PERFORMANCE STANDARDS, NETWORK CONNECTION TIMES)

The monitoring of performance indicators and the technical status of natural gas networks is presented in the report on the achievement of performance indicators for the transmission and system service and distribution and system service of natural gas in the gas year 01.10.2020 - 30.09.2021 and the technical status of the natural gas transmission and distribution systems - 2021, published on the ANRE website, at: https://www.anre.ro/ro/gaze-naturale/rapoarte/rapoarte-indicatori-de-performanta **.**

3.1. The technical status of the national gas transmission system

The natural gas transmission activity is carried out by S.N.T.G.N. Transgaz S.A., acting as the sole natural gas transmission and system operator, based on the operating license of the national gas transmission system no. 1933/20.12.2013, approved by means of ANRE, with validity until 08.07.2032.

The transmission of natural gas is ensured via main pipelines and supply connections, with a total length of over 14,209 km, having diameters between 25 mm and 1200 mm, as well as by the installations, equipment and related endowments, at pressures between 6 bar and 63 bar, which ensure the take-over of natural gas extracted from production perimeters, underground storage facilities and originating from imports, and its subsequent transmission, in order to deliver the product to final customers in the internal and external gas market. The operator additionally operates 3 international transit pipelines operating at a 54 bar pressure level.

The main components of the national gas transmission system (SNT) are presented in the following table:

Main components of the natural gas SNT as of 31.12.2021
• 14,209 km of pipeline and natural gas supply connections, of which 183.5 km are transit pipes and 479 km are related to the BRUA bus;

• 1,247 gas metering stations / 1,233 metering directions;
• 10 physical interconnection points with adjacent transmission systems
• 7 gas metering stations for import/export;
• 2 transit gas metering stations;
• 59 valve/technology hub control stations (SCV, NT);
• 6 physical entry/exit points connected to storage facilities;
• 8 gas compression stations (SCG);
• 1,045 cathodic protection stations (SPC);
• 1,026 gas odorization stations (SOG).

The operating life status of the SNT components, which were in use on **31.12.2021**, is shown in the following table:

Operating time	**Transmission lines and supply connections as off 31.12.2021 (km)**	**Total number of metering directions related to metering adjustment stations (SRM) as of 31.12.2021**	**Number of metering stations on gas transit pipelines (SMG) as of 31.12.2021**	**Number of import/export gas metering control stations (SMG) as of 31.12.2021**	**Number of cathodic protection stations (SPC) as of 31.12.2021**	**Number of valve command stations (SCV-NT) as of 31.12.2021**	**Number of gas compression stations (SCG) as of 31.12.2021**
≥ 40 years	7,673	153	0	2	5	11	0
between 30 and 40 years	1,725	56	0	0	3	1	0
between 20 and 30 years	1,122	352	0	3	13	2	0
between 10 and 20 years	2,376	532	2	0	811	14	0
between 5 and 10 years	464	95	0	1	176	19	1
≤ 5 years	849	59	0	1	37	12	7
TOTAL	**14,209**	**1,247**	**2**	**7**	**1,045**	**59**	**8**

Changes from the previous year are highlighted in the following summary table:

Crt. No.	**Asset/SNT component name**	**M.U.**	**Total on 31.12.2020**	**Achievements in 2021**	**Total on 31.12.2021**	**Variation compared to 2020 (%)**
1	Transmission lines and supply connections, except T3 transit	**km**	**13,556**	470*	**14,026**	3.5 %
2	Transit lines	**km**	**369**	**-**	**183.5**	-
3	Total number of gas metering stations/metering directions	**pcs**	**1128/1.233**	13/14	**1141/1.247**	11 %
4	Interconnection points with storage facilities	**pcs**	**7**	0	**6**	
5	Gas metering stations located on transit pipelines	**pcs**	**4**	0	**2**	
6	Gas metering stations – import/export	**pcs**	**7**	0	**7**	0
7	Cathode protection	**pcs**	**1,041**	4	**1,045**	0.3 %

	stations (SPC)					
8	Command stations - valve / technological nodes (SCV-NT)	**pcs**	**58**	1	**59**	1.7 %
9	Gas compression stations (SCG)	**pcs**	**6**	2	**8**	33 %
10	Gas odorization stations (SOG)	**pcs**	**982**	44	**1,026**	4.5 %

**In addition to the achievements of 2021, the length of the T2 transit pipeline of 183.5 km and a correction of a material error of 34 km were included.*

Throughout 2021, the national transmission system recorded the following changes:

- The total length of the pipelines and connections increased by 3.5 %, due to the fact that Transgaz included a technical correction of 34.3 km, in addition to its 2021 achievements, and the T2 transit pipeline of 183 km;
- 13 new adjustment and metering stations have been upgraded;
- 4 new cathodic protection stations were commissioned, bringing their total number up to 1,045;
- 44 new gas odorization stations were commissioned, their total number reaching 1,026 – which represents an increase of approx. 4.5 % compared to the previous year;
- 2 gas compression stations (SCG) were commissioned, their number reaching 8, in order to balance the pressure in the internal network with that of adjacent systems and to increase the amount of natural gas transmitted under internal conditions.

3.2. The technical status of the natural gas distribution systems

The 29 natural gas distribution operators, holders of subsequent licenses granted by ANRE, held on 31.12.2021 natural gas distribution pipelines and related connections in a total length of over 56,097 km. Of these, a share of 66.3% of the total refers to polyethylene networks, which have witnessed a sharp development in the last 20 years

The following table shows the operating life of the pipes and fittings of the natural gas distribution systems, made of polyethylene and steel, at the end of 2021.

Network age	**OL asset length**	**PE asset length**	**Total objectives length**	
(years)	**(km)**	**(km)**	**(km)**	**(%)**
≥40	1,660	0	1,660	2.96
[30;40)	2,656	0	2,656	4.73
[20;30)	11,750	2,710	14,460	25.78
[10;20)	2,604	18,323	20,927	37.30
<10	262	16,133	16,395	29.23
Total	18,931	37,166	56,097	100

Thus, out of the total of 56,097 km, a share of over 29% represents networks that are less than 10 years old, and 37.3% of them are between 10 and 20 years old On the other hand, 25.78% are pipes and fittings between 20 and 30 years old, while only 7.69% are more than 30 years old

Compared to the previous gas year, the expansion of the national gas distribution network by 1,888 km is noted, which represents an increase of approx. 3.5%.

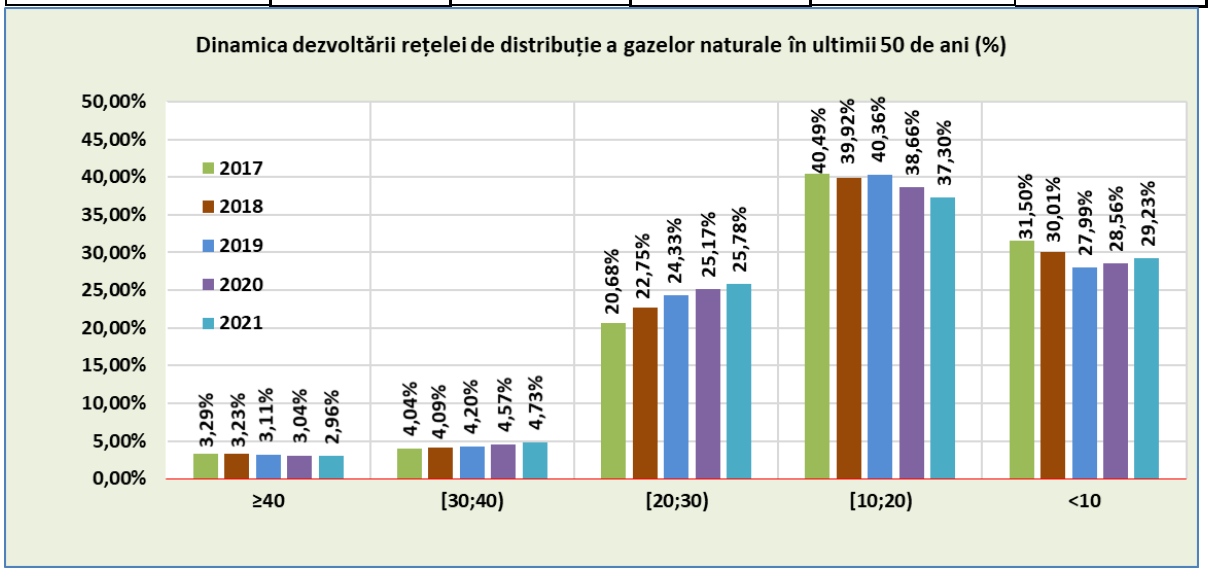
It is mentioned that the total length of the natural gas distribution network on 31.12.2019, specified in the ANRE activity *report* for 2019, of 56,694 km is not correct, due to a material error. Thus, the natural gas distribution system totalled, at the end of 2019, a length of 52,259 km. The increase of the total length of the natural gas distribution network at national level compared to 2019 was by 1,950 km in 2020 and by 1,888 m in 2021.

The share of polyethylene and steel pipes, respectively, broken down per age intervals of the total length of the pipes of the natural gas distribution systems, is represented in the following table:

Network age (years)	**OL percentage (%)**	**PE percentage (%)**
≥40	**2.96**	**0.00**
[30;40)	**4.73**	**0.00**
[20;30)	**20.95**	**4.83**
[10;20)	**4.64**	**32.66**
<10	**0.47**	**28.76**
Percentage of total (%)	**33.75**	**66.25**

The following table shows the dynamics of the development of the natural gas distribution network in the last 5 years, depending on age.

Network age (years)	In the year 2017	In the year 2018	In the year 2019	In the year 2020	**In the year 2021**
≥40	3.29 %	3.3 %	3.11 %	3.04 %	2.96 %
[30;40)	4.04 %	4 %	4.20 %	4.57 %	4.73 %
[20;30)	20.68 %	22.7 %	24.33 %	25.17 %	25.78 %
[10;20)	40.49 %	40 %	40.36 %	38.66 %	37.30 %
<10	31.50 %	30 %	27.99 %	28.56 %	29.23 %



Dynamic of development of the natural gas distribution network in the past 50 years (%)

3.3. Monitoring of the time required for connections to the transmission system

The performance standard for the transmission and system service of natural gas provides that, for the construction of a new connection installation to the ST or for the modification/relocation of an existing one, the TSO shall be required to complete the work

and commission the connection facility within the time limit set out in the connection contract. Based on the submitted records, at Transgaz level, in the 2020-2021 gas year, no connection installation was executed and commissioned, and, therefore, no monitoring data exist for this time period.

3.4. Monitoring of the time required for connections to the distribution systems

In the 2020-2021 gas year, distribution operators (DSOs) registered a total of 151,441 connection requests, more than double, when compared to the previous gas year.

In this context, for the 57,176 connections that distribution system operators commissioned in the period 01.10.2020-30.09.2021, an average duration of 169 days resulted, calculated from the date of registration of the applicant's request, accompanied by the complete documentation, or from the date of completion of the documentation.

Compared to the previous gas year, there is an increase in the average connection period by approx. 37 days, which represents an increase of 28% in what concerns the duration recorded in the previous year, which was 132 days. According to the justifications submitted by the operators, this situation was mainly due to the significant increase in the number of connections executed, in the context of the implementation of restrictions due to the Covid-19 pandemic. The substantial volume of works, generated mainly by the development of real estate and the increase in the number of consumers, as well as by the entry into force of Law no. 155/2020, which provided for the financing of consumer connection works from operators' own funds, has had a significant impact on the capacity of distribution system operators to manage the connection activity, but also on the capacity of authorized economic operators to execute the connection works and to comply with subsequent contractual terms.

Compared to 41,217 connections commissioned during the previous gas year, the volume of works during the monitored period increased by 38%, and these increased works were executed with the same labour force and under special conditions caused by the state of epidemiological alert.

As regards the 4,244 extensions/rescaling of natural gas assets/pipelines commissioned by distribution system operators in the period 01.10.2020-30.09.2021, their duration has reached an average period of 272 days, calculated from the date of submission by the applicant of the request, accompanied by the complete documentation. In this case too, it is noted that, although the number of pipeline extensions has been kept at about the same level as in the previous gas year, the execution period has increased, the increase totalling 55 days, more precisely approx. 25 %, when compared to the average time of completion in the period 01.10.2019 – 30.09.2020, which was 217 days.

3.5. Monitoring of the performance indicators related to the natural gas transmission service

The performance indicators related to the transmission and system service of natural gas relate to:

- registration and settlement of requests/complaints of users regarding the transmission and gas system service;
- access to the natural gas transmission system;
- connection to the natural gas transmission system;
- restoration of land and/or property affected by works on the infrastructure of the natural gas transmission system;

- compliance with the conditions for natural gas hand-over and take-over;
- limitation/interruption of the provision of gas transmission and system services.

The transmission system operator shall be exempt from the obligation to observe the performance indicators imposed by the standard in emergency and force majeure situations, declared in accordance with the legal provisions, as well as in the case of occurrence of partial or total technical restrictions of an upstream system.

The summary of the specific performance indicators of the transmission and gas system service and their development compared to the previous gas year is highlighted in the **following table**:

Summary of the performance indicators of the transmission and system service

Specific performance indicator	**Indicator reference value (%)**	**Analysed gas year 2020-2021 (%)**	**Fulfilment of the performance condition %**	**Previous gas year 2019-2020 (%)**	**Development of the indicator (±%)**
IP_0^1	90	99.64	yes	99.58	+0.06
IP_1^1	95	---	-	---	---
IP_1^2	95	---	-	---	---
IP_1^3	95	99.79	yes	100	-0.21
IP_1^4	95	100	yes	100	---
IP_1^5	95	100	yes	100	---
IP_2^1	95	100	yes	97.37	+2.70
IP_2^2	95	---	-	---	---
IP_3^1	95	100	yes	100	0
IP_3^2	95	---	-	---	---
IP_3^3	95	---	-	---	---
IP_3^4	95	---	-	---	---
IP_4^1	95	---	-	---	---
IP_5^1	98	99.98	yes	100	-0.02
IP_5^2	98	100	yes	100	0
IP_6^1	98	100	yes	100	0
IP_6^2	98	100	yes	100	0
IP_7^1	80	82.26	yes	93.88	-12.38
IP_8^1	98	100	yes	100	0
IP_8^2	98	100	yes	---	---
IP_9^1	90	---	-	---	---

Note: The fields marked with (---) are those in relation to which the indicators have not been calculated, because there have been no requests or complaints on the basis of which they could be determined.

In conclusion, it can be noted that **all the performance indicators** of the transmission and gas system service for the gas year 1.10.2020 - 30.09.2021 have values above the reference ones, their degree of compliance with the minimum levels set out in the standard being 100%. Compared to the previous gas year (01.10.2019 - 30.09.2020), the high level maintenance of the values of performance indicators is demonstrated, which denotes the maintenance of the quality standard of the services offered by S.N.T.G.N. Transgaz S.A. In

what concerns the decrease of the IP_7^1 indicator, when compared to the value registered in the previous year, according to the information submitted by the operator, it was caused by the large number of requests and changes thereof, incomplete information submitted, the analyses needed to solve identified issues, as well as the COVID pandemic. In order to be within the limit imposed by the standard, the operator has supplemented staff assigned to this activity.

3.6. Monitoring of the performance indicators of the natural gas distribution service

The performance indicators for the distribution and system service shall relate to:

- registration and resolution of complaints / requests of users regarding the gas distribution and system service;
- contracting the natural gas distribution service;
- compliance with gas hand-over and take-over services;
- connection to the natural gas distribution system;
- restoration of land and/or assets affected by the execution of works on the assets of the natural gas distribution system;
- limitation/interruption of the provision of the gas distribution and system service.

Natural gas distribution system operators (DSOs) are exempt from the obligation to comply with the performance indicators imposed by the standard in emergency and force majeure situations, declared in accordance with the legal provisions, and upon the occurrence of partial or total technical restrictions of an upstream system.

In order to highlight the quality of the service provided by the distribution operators in the analysed gas year, compared to the previous gas year, the **following table** shows the average values recorded in what concerns the performance indicators in these two gas years.

Summary of performance indicators of the distribution service – country weighted average values

Specific performance indicator	Indicator reference value (%)	The analysed gas year 1.10.2020 - 30.09.2021 (%)	Fulfilment of the performance condition %	Previous gas year 1.10.2019 - 30.09.2020 (%)	Evolution of the indicator (±%)
IP_0^1	90	92.96	yes	99.92	-6.97
IP_1^1	90	99.24	yes	99.96	-0.72
IP_1^2	95	96.88	yes	97.36	-0.49
IP_1^3	95	100	yes	96.30	3.84
IP_1^4	95	98.16	yes	99.05	-0.90
IP_3^1	95	**79.94**	**no**	**95.90**	**-16.64**
IP_3^{1-1}	95	99.41	yes	93.29	6.56
IP_3^2	95	**91.83**	**no**	**95.36**	**-3.70**
IP_3^3	95	**88.53**	**no**	**93.87**	**-5.69**
IP_3^4	95	**91.84**	**no**	**97.53**	**-5.83**
IP_3^5	95	**93.73**	**no**	**94.46**	**-0.77**
IP_3^{5-1}	95	**92.57**	**no**	**95.72**	**-3.29**
IP_3^{5-2}	95	**94.52**	**no**	**95.42**	**-0.94**
IP_4^1	90	94.11	yes	89.40	5.27
IP_5^1	95	99.62	yes	100	-0.38
IP_6^1	98	99.98	yes	100	-0.02

IP_7[1]	80	96.18	yes	97.58	-1.43
IP_8[1]	98	99.82	yes	99.10	0.73
IP_9[1]	90	98.65	yes	98.19	0.47

The present situation reflects the fact that, in general, the performance indicators of the natural gas distribution service have been met or the average values are approaching the minimum threshold set out in the standard. On the other hand, it is noted that 7 of the 8 indicators that are part of the general indicator IP_3, regarding the connection to the system, could not be met. The declining result, compared to the previous gas year, is an obvious one, highlighted by the reductions registered and reflected next to the indicators. The main cause of this situation is the impact that the legislative changes during 2020, namely the provisions of Law no. 155 of July 24th, 2020 and Law no. 290 of December 15th, 2020 had on the activity of expanding and connecting customers to the system. These provisions, which required operators to finance extensions and to bear the costs of connecting customers to the system, led to an increase of more than 100 % in the number of requests, which is correlated with the imposition by law of minimum time limits for carrying out the works related to the connection, have made the connection activity of operators more difficult, with the effects translating into the reduction of the specific performance indicators illustrated above. At the same time, operators faced the difficulties caused by alert states following the Covid-19 pandemic.

The IP_3 indicator reflecting the response time to the system connection request is the indicator most affected by the situation described above and operators must intervene in relation to it, by taking the necessary organizational measures leading to a reduction in the connection time, affected in particular by the deadlines for the preparation of technical documentation, obtaining permits and authorizations, the execution of pipeline extensions and connections, the commissioning of achieved assets.

The **following table** sets out the state of planned and unplanned interruptions in the provision of the gas distribution and system service and the performance indicators for notifying users affected by these interruptions.

Situation of planned and unplanned interruptions in the provision of the gas distribution and system service:

Crt. No.	DSO	Outages planned	Number of users affected	Degree of notification within 12 hours (%)	Outages unplanned	Number of users affected	Degree of notification at least 2 days in advance (%)
1	DELGAZ GRID	1,857	158,674	99.91	673	101,372	99.35
2	DISTRIGAZ SUD RETELE	3,092	404,242	100.00	238	57,108	100.00
3	Distributors who service less than 100,000 users	632	32,502	100.00	692	15,537	99.99
4	**TOTAL**	**5,581**	**595,418**	**99.98**	**1,603**	**174,017**	**99.62**

The resulting conclusion is that all distribution system operators paid particular attention to notifying customers affected by both unplanned and planned interruptions, and managed to almost completely notify all affected users.

3.7. Achievement of the annual maintenance plan in the natural gas transmission system

In order for the natural gas transmission and system operator SNTGN Transgaz S.A. (TSO) to be able to fulfil its legal obligations regarding the maintenance and rehabilitation of the system it operates, in terms of efficiency and environmental protection, the latter is obliged to carry out the specific annual maintenance operations, according to an annual plan assumed according to the provisions of the Procedure approved by means of ANRE Order no. 38/2019. The maintenance activity is carried out in accordance with the *Technical norms for the design and execution of natural gas transmission pipelines*, approved by means of ANRE Order no. 118/2013, with subsequent amendments and completions. In 2021, the TSO carried out maintenance works according to the data presented in the following table. The degree of achievement of the maintenance plan in 2021 is approx. 44%, well below the minimum 90% threshold imposed by the regulatory framework.

Year 2021		**Planned**	**Achieved**	**Degree of achievement**
		(RON)	**(RON)**	**(%)**
Preventive maintenance	**works**	8,289,996	4,351,026	52.5 %
	Corrective	13,617,194	5,218,983	38.3 %
	Total	**21,907,190**	**9,570,009**	43.7 %

Among the causes that led to the failure to meet the objectives predicted in the maintenance plan, reported by the transmission system operator of natural gas, we mention the following:

- issues related to the delay in granting the right of access to the field by private land owners;
- issues with obtaining the right of access to the land and temporary removal of the land from the national forest fund;
- discoveries of archaeological sites during the execution period and the need for additional preventive archaeological research works;
- delays in the supply of necessary materials, due to the COVID 19 pandemic;
- failure to interrupt the flow of natural gas through pipelines in the cold season;
- delays in the unfolding of public procurement procedures;
- additional requests from local authorities for the issuance of building permits.

Analysing the value of the maintenance works carried out by the transmission system operator in the last 3 years, it is found that they have decreased progressively, from RON 29.7 million in 2019, to RON 11.4 million in 2020 and to RON 9.6 million in 2021, values that exclude maintenance services contracted with third parties. The planned value of these works for the last 3 years has been similar, as such, the degree of achievement of the annual plan value has ranged from 40 to 60 %.

For 2022, SNTGN Transgaz SA has forecast maintenance works worth a total of approx. RON 13.8 million, excluding the budgeted amounts for maintenance services executed with third parties.

3.8. Achievement of the annual maintenance plan regarding natural gas distribution systems

The operation, maintenance, repair and rehabilitation of natural gas systems is carried out in compliance with the *Technical norms for the design, execution and operation of natural gas supply systems*, approved by means of ANRE Order no. 89/2018, with subsequent amendments and completions.

In accordance with the provisions of the Procedure approved by means of ANRE Order no. 38/2019, with subsequent amendments and completions, the DSO has the obligation to carry out annual maintenance works amassing at least 90% of the total value of the annual maintenance plan.

The values of the total, preventive and corrective maintenance works carried out throughout 2021 by the two major national operators of the natural gas distribution system, Delgaz Grid and Distrigaz Sud Rețele, as well as the total achieved by the other 27 operators, are presented in the following table.

It is noted that, at the level of the entire country, in 2021, the minimum degree of implementation stipulated by the regulatory framework was fulfilled, namely the obligation to carry out maintenance works amounting to at least 90% of the planned value assumed by the operators. Operators distributing to more than 100.000 consumers have fulfilled both preventive maintenance and corrective maintenance programs, while small distribution operators have registered a low degree of preventive maintenance and very low degree of corrective maintenance. Failure to carry out the corrective maintenance plan could be based on the fact that they generally operate new systems that are in good technical condition.

Operator	Total planned maintenance	Total achieved maintenance	Achievement degree	Planned preventive maintenance	Achieved preventive maintenance	Achievement degree	Planned corrective maintenance	Achieved corrective maintenance	Achievement degree
	(RON)	(RON)	(%)	(RON)	(RON)	(%)	(RON)	(RON)	(%)
Distrigaz Sud Rețele	348,069,355	354,460,197	101.8	215,011,740	214,488,187	99.8	133,057,615	139,972,010	105.2
Delgaz Grid	283,652,772	279,501,565	98.5	180,596,729	175,068,962	96.9	103,056,043	104,432,603	101.3
Others (27 DSOs)	20,597,713	13,317,529	64.7	15,938,254	12,047,907	75.6	4,659,459	1,269,622	27.2
TOTAL	652,319,840	647,279,291	99.2	411,546,723	401,605,056	97.6	240,773,117	245,674,235	102.0

3.9. Achievement of the annual maintenance plan in relation to gas storage systems

The values of the total, preventive and corrective maintenance works carried out throughout 2021 by the two natural gas storage operators are presented in the following table:

Operator	Total planned maintenance	Total achieved maintenance	Achievement degree	Preventive maintenance planned	Preventive maintenance achieved	Achievement degree	Planned corrective maintenance	Achieved corrective maintenance	Achievement degree
	(RON)	(RON)	(%)	(RON)	(RON)	(%)	(RON)	(RON)	(%)
DEPOGAZ	13,041,287	10,252,824	78.6 %	9,395,607	8,493,275	90.4 %	3,645,680	1.759ț549	48.3
DEPOMUREȘ	2,294,335	2,023,070	88.2 %	493,855	538,706	109.1 %	1,800,480	1,484,364	84.4
TOTAL	**15,335,622**	**12,275,894**	**80.1**	**9,889,462**	**9,031,981**	**91.33**	**5,446,160**	**3,243,913**	**59.6**

From the presented data, it is revealed that none of the operators fulfilled the condition stipulated in the Procedure approved by means of ANRE Order no. 38/2019, regarding the minimum degree of 90% of the planned value of the maintenance works that

the operators have to perform. However, the data show that operators significantly fulfil preventive maintenance plans and do not record the projected costs related to corrective maintenance. This highlights the lack of incidents in terms of damage, failures in the systems they operate, as a result of their good technical condition. Therefore, given the reduction in costs of the maintenance and operation of the system, this result could be viewed as a positive one.

IV. LICENSES, AUTHORIZATIONS AND CERTIFICATES

1. LICENSES, AUTHORIZATIONS AND CERTIFICATES PERTAINING TO ELECTRICITY

Establishment licenses and authorizations

Throughout 2021, ANRE continued the activity of granting, amending, withdrawing or, where appropriate, suspending the establishment permits and licenses/confirmations of licenses. On 24.07.2020, Law no. 155 (*Law*) amending Law no. 123/2012 on electricity and natural gas, with subsequent amendments and completions, came into force, in what concerns granting the right for commercial exploitation of energy capacities for electricity production, without the requirement to hold a license granted by ANRE, in what concerns the holder of certain power generation capacities, including electricity and heat produced in cogeneration power plants, connected to the electricity grid, with a total power of less than 1 MW. Thus, 381 licenses for the commercial exploitation of the electricity generation capacities and, where applicable, of the electricity and heat produced in cogeneration power plants, have ceased their validity by means of the provisions of the *Law* on 01.01.2021.

2021 was the year in which there was a significant increase in the price of electricity on the international wholesale electricity market, due to the increase in the price of CO_2 emission certificates. This led to a revival in the requests for authorization to ANRE for the construction of power plants based on renewable energy sources or conventional sources, using modern technologies with low degree of environmental pollution

In accordance with the *Procedure for confirming the right to participate in the electricity markets in Romania of foreign legal entities having their registered office in a Member State of the European Union*, approved by means of ANRE Order no. 91/2015, with subsequent amendments and completions, throughout 2021, ANRE continued to issue confirmation decisions for economic operators, having their registered office in an EU Member State, who hold valid licenses for the marketing of electricity or similar documents, issued by the energy regulator of that State in question, granting them the right to carry out the activity of electricity supply or the activity of electricity trader on the electricity markets in Romania, as well.

Status of establishment permits granted in 2021

Throughout 2021, there was an increased interest of investors in building new energy capacities, based on renewable energy sources or conventional sources using modern technologies with low environmental pollution, which translated into ANRE granting eight establishment permits for energy objectives throughout 2021, totalling approx. 80 MW, as opposed to 2020, when 4 establishment permits were granted, totalling 13.59 MW.

Nr Crt	Nr Decizie	Nr. Autoriz infiintare	Data	Societate	Obiectiv	Localitate obiectiv	Județ	Pei (MW)	Pt (MW)	Surse primare de energie
1	2148	1194	24.11.2021	ELAWAN WIND BEREZENI SRL	CEE Berezeni	Vutcani, Berezeni	Vaslui	39,60	0	Eolian
2	2133	1193	24.11.2021	OMV PETROM SA	CTE (G2P) Park3 Oarja	Oarja	Argeş	1,30	0	Hidrocarburi
3	2132	1192	24.11.2021	OMV PETROM SA	CTE (G2P) Park1 Depozit Băicoi	Băicoi	Prahova	1,45	0	Hidrocarburi
4	1649	1191	18.08.2021	IDROTRE SRL	CHEMP Neagra Şarului 2 retehnologizare	Neagra Şarului	Suceava	1,10	0	Hidro
5	996	1190	19.05.2021	GENESIS BIOTECH SRL	Staţie producere energie electrica din biogaz Genesisbio 2	Filipeştii de Pădure	Prahova	1,07	1,12	Biogaz
6	917	1189	12.05.2021	NOVA POWER & GAS SRL	Centrala electrică CEG 2	Câmpia Turzii	Cluj	6,72	0	Hidrocarburi
7	916	1188	12.05.2021	NOVA POWER & GAS SRL	Centrala electrică CEG 1	Câmpia Turzii	Cluj	6,72	0	Hidrocarburi
8	304	1187	24.02.2021	C.E.T. ARAD SA	Unitate agregată cu module generatoare în cogenerare	Arad	Arad	21,84	21	Hidrocarburi
				TOTAL				79,80	22,12	

No., Decision no., Establishment authorisation no., Date, Company, Objective, Objective locality, County, Pei (MW), Pt (MW), Primary energy sources, Wind power, Hydrocarbons, Hydro, Biogas, Total

Pei = maximum electrical power output in the power grid
Pt = installed thermal power

Number of licenses and confirmations granted in 2021

Licenses for the exploitation of electricity generation capacities, including the capacities for the generation of electricity from cogeneration power plants and/or for the storage of electricity added to them	7
Provisional licenses for the exploitation of electricity generation capacities, including capacities for the generation of electricity from cogeneration power plants and/or for the storage of electricity added to them	2
Licenses for the electricity supply activity	23
Licenses for the activity of the electricity trader	6
Licenses for the aggregation activity	1
Confirmations of licenses from EU Member States for the activity of the electricity trader	3
Confirmation of the classification of distribution systems as closed systems	4
TOTAL NUMBER	46

Number of establishment licenses and authorisations modified in 2021, including extension of validity

Out of the total applications for the amendment of establishment licenses/authorizations, the changes generated by the extension of their validity, as well as those caused by changes in relation to certain company identification data (name, headquarters address, legal status) or due to updates of the technical characteristics of energy capacities entered in the specific conditions associated with the licenses/authorizations for establishment had a significant weighting.

Establishment authorization for the achievement of electricity generation capacities	3
Licenses for the exploitation of electricity generation capacities, including the capacities for the generation of electricity from cogeneration power plants and/or for the storage of electricity added to them	64
Provisional licenses for the exploitation of electricity generation capacities, including	1

capacities for the generation of electricity from cogeneration power plants and/or for the storage of electricity added to them	
Licenses for the electricity supply activity	40
Licenses for the activity of the electricity trader	1
Licenses for the provision of the electricity transmission service, the provision of system services and the management of the balancing market	1
Licenses for the provision of the electricity distribution service	10
TOTAL NUMBER	120

Number of licenses withdrawn/suspended in 2021

Throughout 2021, 25 licenses/confirmations in the field of electricity were withdrawn and one license was suspended. Most of the withdrawals were based on the merger by absorption of license-holder companies.

	Withdrawn	Suspended
Licenses for the exploitation of electricity generation capacities, including the capacities for the generation of electricity from cogeneration power plants and/or for the storage of electricity added to them	17	-
Licenses for the electricity supply activity	2	1
Licenses for the activity of the electricity trader	1	-
Confirmations of licenses from EU Member States for the activity of the electricity supply	2	-
Confirmations of licenses from EU Member States for the activity of the electricity trader	1	-
Licenses for the provision of the electricity distribution service	1	-
Confirmation of the classification of distribution system as closed systems	1	-
TOTAL NUMBER	25	1

Number of establishment permits, licenses and confirmations in force on 31.12.2021

Establishment authorization for the achievement of electricity generation capacities	12
Licenses for the exploitation of electricity generation capacities, including the capacities for the generation of electricity from cogeneration power plants and/or for the storage of electricity added to them	443
Provisional licenses for the exploitation of electricity generation capacities, including capacities for the generation of electricity from cogeneration power plants and/or for the storage of electricity added to them	4
Licenses for the electricity supply activity	190
Licenses for the activity of the electricity trader	45
Confirmations of licenses from EU Member States for the activity of the electricity supply	3
Confirmations of licenses from EU Member States for the activity of the electricity trader	14
Confirmation of the classification of distribution systems as closed systems (SDI)	3
Licenses for the activity of the electricity market operator	1
Licenses for the provision of the electricity transmission service, the provision of system services and the management of the balancing market	1
Licenses for the provision of the electricity distribution service	48
Licenses for the aggregation activity	1
TOTAL NUMBER	765

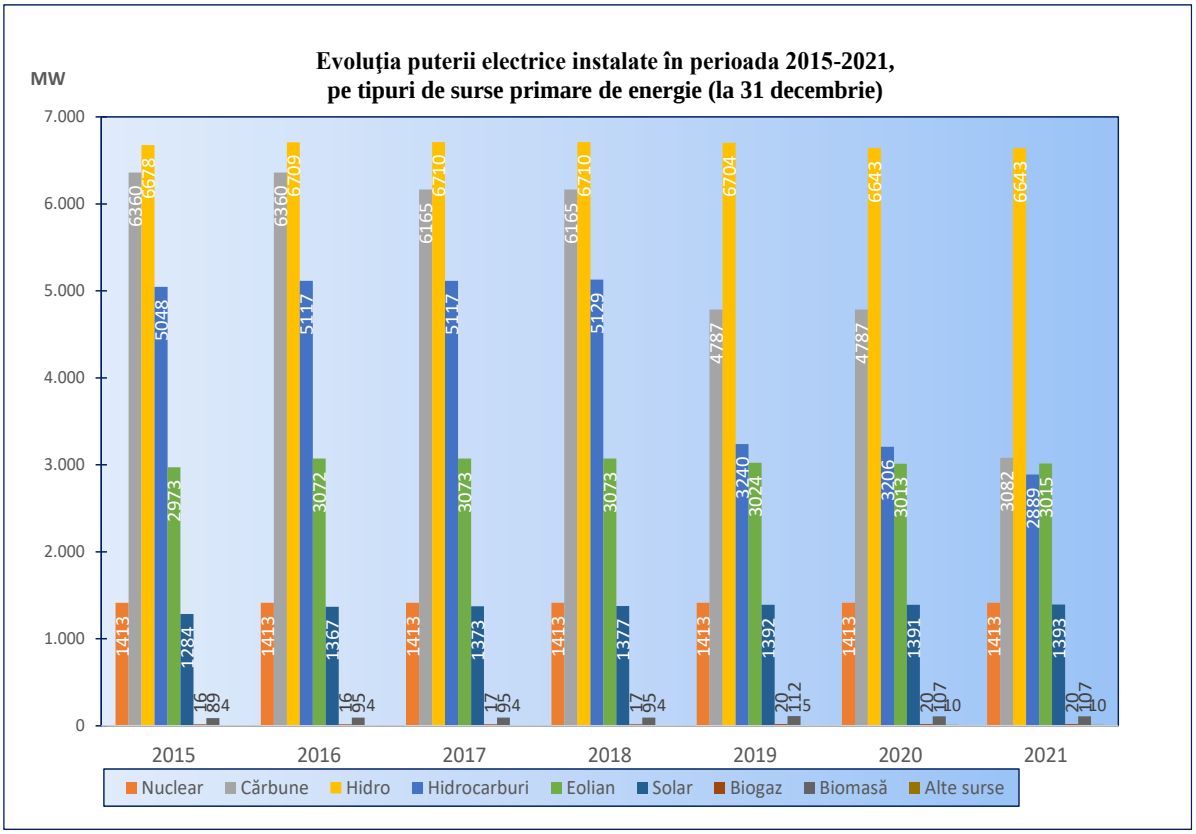
The development of installed electrical power in power generation capacities

Type of primary energy, Installed electrical power, nuclear, coal, hydroelectric,

Tip energie primară:	**Puterea electrică instalată (MW)**						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
nuclear	1413	1413	1413	1413	1413	1413	1413
cărbune	6360	6360	6165	6165	4787	4787	3082
hidroelectric	6678	6709	6710	6710	6704	6643	6643
hidrocarburi	5048	5117	5117	5129	3240	3206	2888
eolian	2973	3072	3073	3073	3024	3013	3015
solar	1284	1367	1373	1377	1392	1391	1393
biogaz	16	16	17	17	20	20	20
biomasă	89	95	95	95	112	107	107
altele (deseuri, geotermală etc.)	4	4	4	4	5	10	10
Total	**23865**	**24153**	**23967**	**23983**	**20697**	**20590**	**18571**

hydrocarbons, wind power, solar, biogas, biomass, misc. (waste, geothermal, etc.), Total

Throughout 2021, ANRE amended a number of licenses by updating the electrical powers installed in the power generation capacities, including the capacities for producing electricity and thermal energy from co-generation power plants, in order to reflect the actual values of installed and available power at the SEN level and to send correct signals to potential investors interested in new energy capacities.



Development of installed electrical power in 2015-2021, per types of primary energy sources (as of December 31st), Nuclear, Coal, Hydro, Hydrocarbons, Wind power, Solar, Biogas, Biomass, Other sources

Note: The processing was carried out on the basis of the technical characteristics entered under the conditions associated with the licenses for the commercial exploitation of electricity generation capacities (including electricity produced in co-generation), in force at the end of each calendar year. The analysis does not include producers of electricity that produce exclusively for their own consumption or that, according to the Law on electricity and natural gas no.123/2012, with subsequent amendments and completions (Law), are not subject to the authorization by ANRE (producers that commercially exploit electricity generation capacities with an installed electricity power below 1 MW, who can carry out the activity without a license granted by ANRE, under the Law).

Report on energy capacity withdrawn from operation due to long-term unavailability

Crt. No.	Company	Fuel	Installed electrical power (MW)
1	ELECTROCENTRALE CONSTANTA	hydrocarbons	50
		hydrocarbons	50
2	ELECTROCENTRALE GALATI	hydrocarbons	60
		hydrocarbons	105
3	VEOLIA ENERGIE PRAHOVA	hydrocarbons	50
4	COMPLEXUL ENERGETIC OLTENIA	coal	330
		coal	315
5	ELECTROCENTRALE BUCURESTI	hydrocarbons	50
6	COMPLEXUL ENERGETIC HUNEDOARA	coal	1050
	Total		**2060**

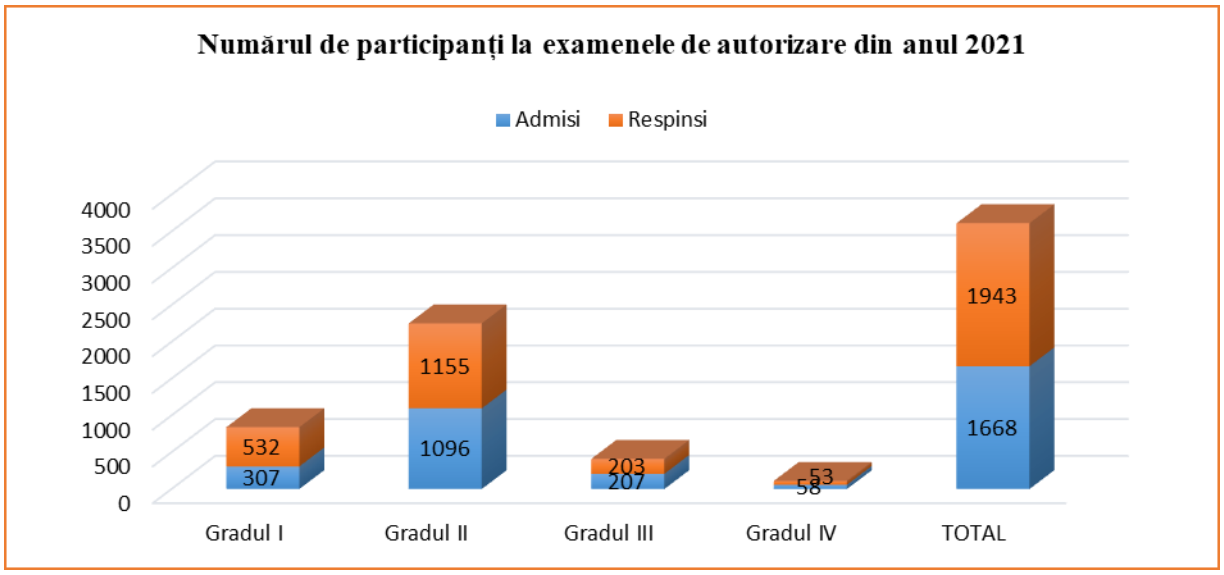
Report on commissioned energy capacities, based on licenses, during 2021

Nr. Crt.	Societatea	Localitatea	Judeţul	Puterea electrică instalată (MW)	SURSA PRIMARĂ
1	DAK ANYA CRIS	Tulcea	Tulcea	2,0	eolian
4	NOVA POWER&GAZ SRL	Câmpia Turzii	Cluj	6,7	hidrocarburi
5	NOVA POWER&GAZ SRL	Câmpia Turzii	Cluj	6,7	hidrocarburi
6	CET ARAD SA	Arad	Arad	23,8	hidrocarburi
7	DARCOM GRUP	Târgu Jiu	Gorj	1,5	solar
	Total capacitati intrate în exploatarea comercială prin acordare de licenţă			**40,7**	

Authorization of natural persons

Throughout 2021, ANRE authorized natural persons, such as electricians, or project auditors and technical quality experts and extrajudicial experts in the field of technological electrical installations, in accordance with the provisions of the *Regulation for the authorization of electricians, project auditors, technical execution officers, as well as of technical quality experts and extrajudicial experts in the field of electrical installations*, approved by means of ANRE Order no. 11/2013, amended by means of ANRE Order no. 116/2016.

Throughout 2021, ANRE organized two authorization sessions, in the spring and summer of 2021, as well as a session to extend the validity of authorized electricians in the autumn of 2021. During these sessions, 4,331 applications for the qualification of authorized electricians were received, analysed and solved, broken down per degrees and types of regulated authorization, which are presented in the figure.

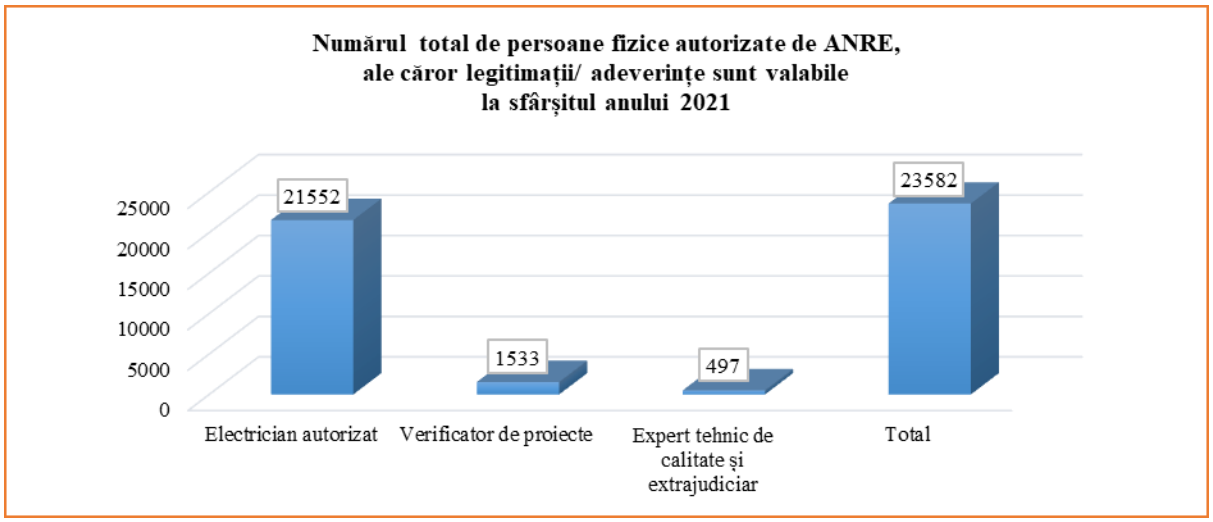


Number of participants in the authorisation exams in 2021, Passed, Rejected, Level I, Level II, Level III, Level IV, TOTAL

The percentage of individuals passing the electricians' authorization exam organized in 2021 was 45.32%.

In 2021, 2,909 certificates of authorized electricians were granted to extend the validity of certified authorized electricians, 204 certificates for project auditors in the field of technological electrical installations, and 63 certificates for quality and extrajudicial technical experts in the field of technological electrical installations were granted.

Regarding the total number of natural persons authorized by ANRE, whose certificates are valid at the end of 2021, this value can be found in the following chart:



Total number of private individuals authorised by ANRE, whose authorisations/certificates are valid as of YE 2021, Authorised electrician, Project auditor, Technical quality and extra judiciary expert, Total

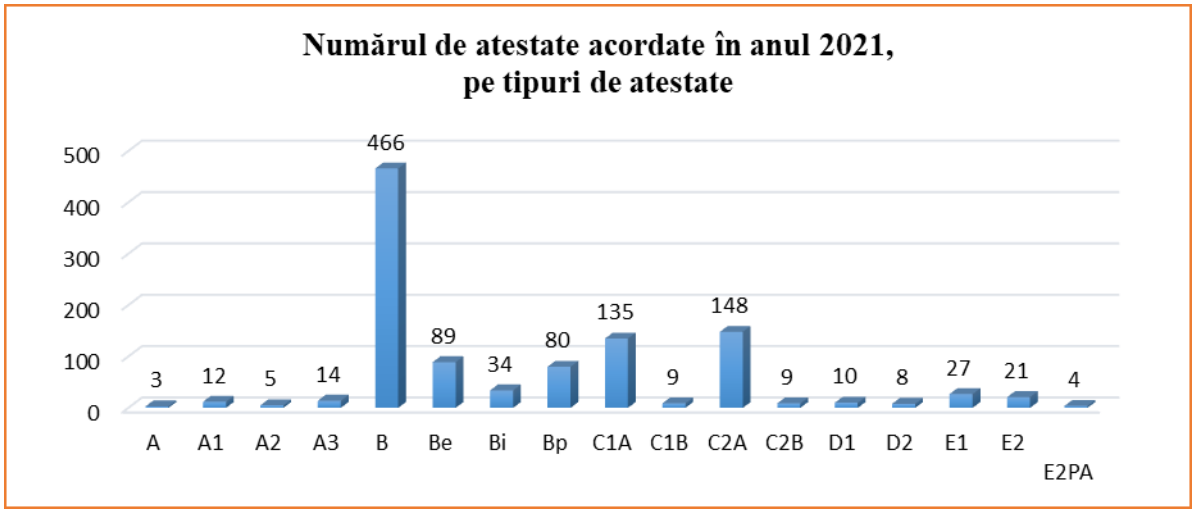
Certification of economic operators

Regarding the certification activity, in accordance with the provisions of the *Regulation for the certification of economic operators who design, execute and verify electrical installations*, approved by means of ANRE Order no. 45/2016, with subsequent amendments and completions, ANRE continued to issue certificates for economic operators who design, execute and verify electrical installations.

According to the above-mentioned Regulation, ANRE issues 17 types of such certificates.

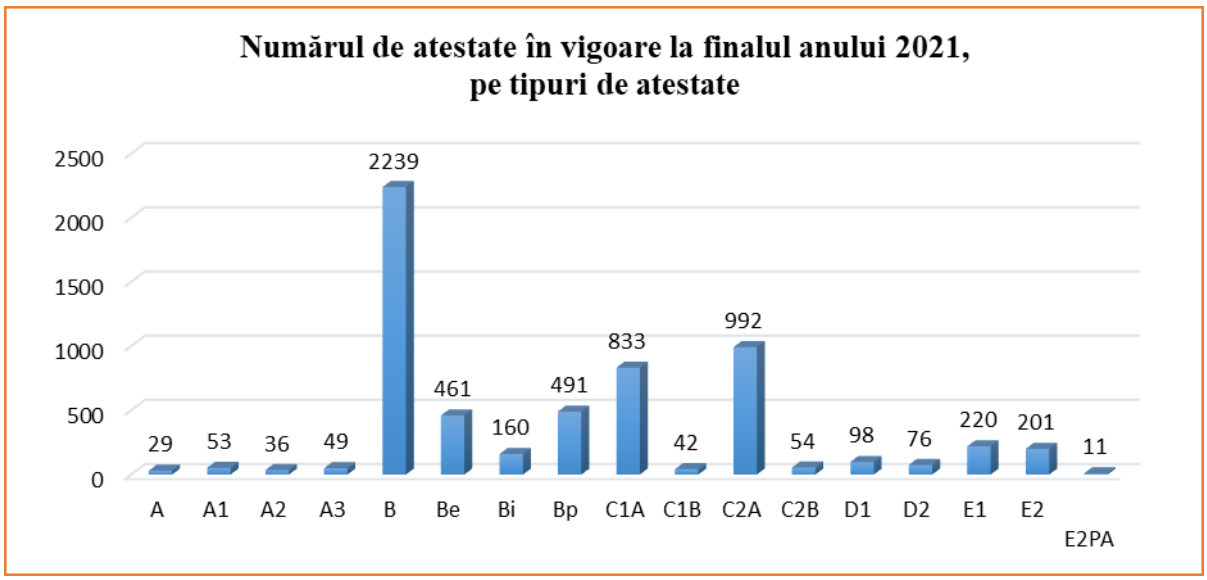
In 2021, 1,264 requests were registered at ANRE-level from the economic operators in the field of electricity for the different types of certifications provided by the Regulation; following the analysis of the documentation attached to the applications received and based on the approval of the Certification commission, ANRE issued, in 2021, a number of 974 decisions, by means of which 1,074 certifications were granted, and 66 certification were amended/suspended/withdrawn. Also, in the course of 2021, a number of 71 certifications were analysed, in order to extend their validity.

The report on certifications granted in 2021, broken down per types of certifications (defined for design/execution activities of electrical installations and different voltage levels), is summarized in the chart below:



Number of certificates granted in 2021, per certification type

The total number of certificates granted by ANRE, in force at the end of 2021, is 6,045, as represented in the following graph:



Number of certificates valid at the end of 2021, per certification type

2. LICENSES, AUTHORIZATIONS AND CERTIFICATES IN THE FIELD OF NATURAL GAS

Establishment permits and licenses

In accordance with the provisions of the ***Regulation for the granting of establishment authorizations and licenses in the natural gas sector,*** approved by means of ANRE Order no. 199/2020, throughout 2021, at the request of economic operators, ANRE granted/modified **establishment authorizations and licenses in the natural gas sector**.

The status of the establishment authorizations and licenses granted/modified by ANRE in 2021, as well as of the establishment authorizations and licenses in force on 31.12.2021 are presented in the following tables and figures:

Establishment authorizations granted by ANRE in 2021 and those in force on 31.12.2021

Table no. 1

No.	Type of authorization	Establishment authorizations granted in 2021	Establishment authorizations in force on 31.12.2021
1.	Establishment authorization - direct natural gas line	6	3
2.	Authorizations for the establishment of distribution systems	13	33
3.	Authorizations for the establishment of biogas/bio methane production facilities	1	-
4.	Authorizations for the establishment of upstream supply pipes related to natural gas production activity, in case of new perimeters	-	10
5.	Authorizations for the establishment of closed distribution systems	-	1
TOTAL		20	47

Licenses granted by ANRE in 2021 and those in force on 31.12.2021

Table no. 2

No.	Type of license	Licenses granted in 2021	Licenses in effect on 31.12.2021
1.	License to manage the centralized natural gas market	-	4
2.	Natural gas supply license	21	151
3.	Natural gas trader license	5	16
4.	LNG supply license	1	2
5.	License for the operation of underground gas storage systems	-	2
6.	License for the operation of upstream supply pipes related to the production of natural gas	1	11
7.	License for the operation of natural gas distribution system	-	29
8.	License for the operation of natural gas transmission systems	-	1
TOTAL		27	216

Number of confirmations* granted by ANRE in 2021 and those in force on 31.12.2021

Table no. 3

No.	Activities carried out in Romania by holders of licenses granted by regulatory authorities / other institutions from EU Member States on the basis of confirmation issued by ANRE	Number of confirmations granted in 2021	Number of confirmations in force on 31.12.2021
1.	EU licensed natural gas supply license confirmation	1	6

2.	EU licensed natural gas trader license confirmation	1	6
TOTAL		2	12

**) ANRE has issued confirmations of the right to carry out in Romania the activity of natural gas supply / the activity of natural gas trader, in accordance with the Procedure approved by means of ANRE Order no. 91/2015, with subsequent amendments and completions, at the request of economic operators based in other EU Member States, who held a license for the activity of supplying natural gas/activity of natural gas trader granted by the regulatory authority of the state where the respective operators have their registered office.*

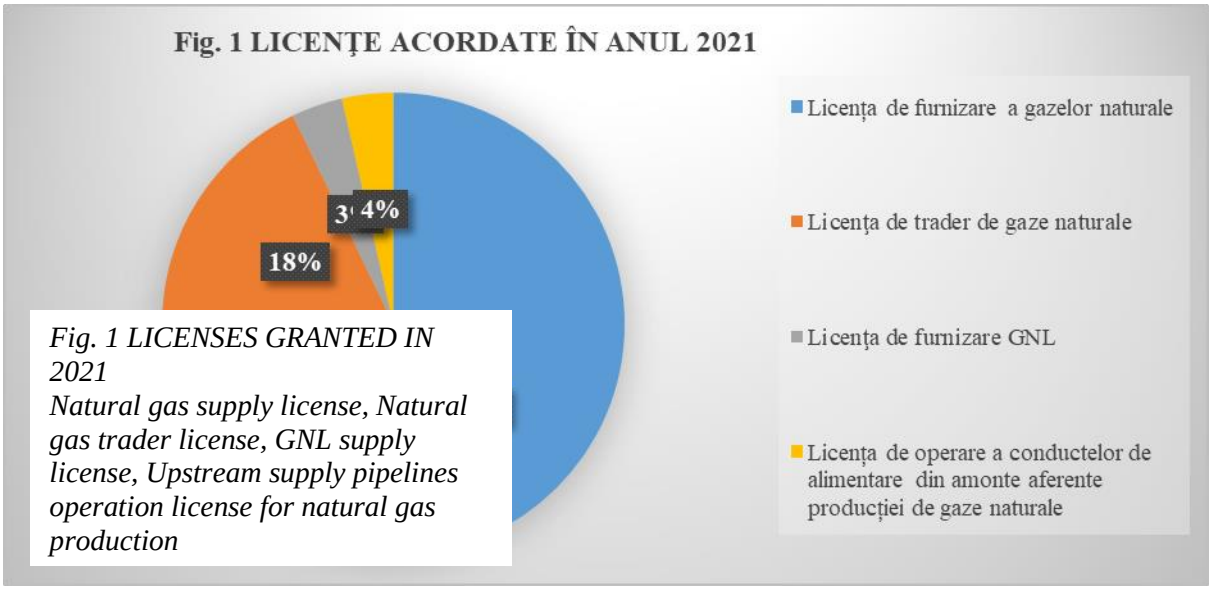


Fig. 1 LICENSES GRANTED IN 2021
Natural gas supply license, Natural gas trader license, GNL supply license, Upstream supply pipelines operation license for natural gas production

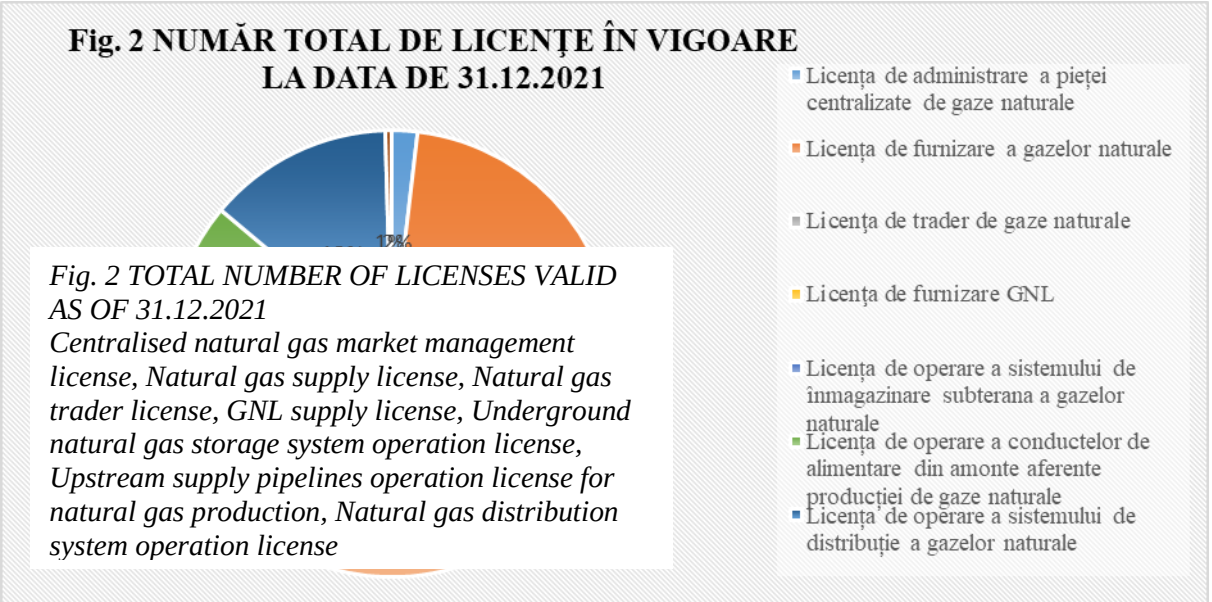


Fig. 2 TOTAL NUMBER OF LICENSES VALID AS OF 31.12.2021
Centralised natural gas market management license, Natural gas supply license, Natural gas trader license, GNL supply license, Underground natural gas storage system operation license, Upstream supply pipelines operation license for natural gas production, Natural gas distribution system operation license

Modifications of the establishment authorisations and licenses approved by ANRE in 2021

Table no. 4

Crt. No.	**Types of modifications**	**Modifications approved in 2021**
I.	Extensions and features' changes	
1.	Modification of the establishment authorization for upstream supply pipes related to the natural gas production activity	1
2.	Modification of the establishment authorization for natural gas	1

	distribution systems	
3.	Modification of the operating license of the natural gas distribution system	87
4.	Modification of the operating license of the natural gas transmission system	1
5.	Modification of the operating license of the upstream supply pipes related to natural gas production	12
6.	Extension of the validity of the natural gas supply license	8
II.	Change of headquarters/name of economic operator	
1.	Change of headquarters/name of economic operator	16
III.	Withdrawal of licenses/authorizations	
1.	Withdrawal of natural gas supply license	11
2.	Withdrawal of natural gas trader license	1
3.	Withdrawal of establishment authorization for closed distribution system	1
4.	Withdrawal of the operating license of the natural gas distribution system	1
IV.	DSO appointment**	
1.	DSO appointment	3

***) ANRE has appointed/extended the period of appointment of licensed operators for natural gas distribution in accordance with the provisions of the Procedure on the appointment of a natural gas distribution operator for taking over the operation of a natural gas distribution system, approved by means of ANRE Order no. 2/2017, with subsequent amendments and completions.*

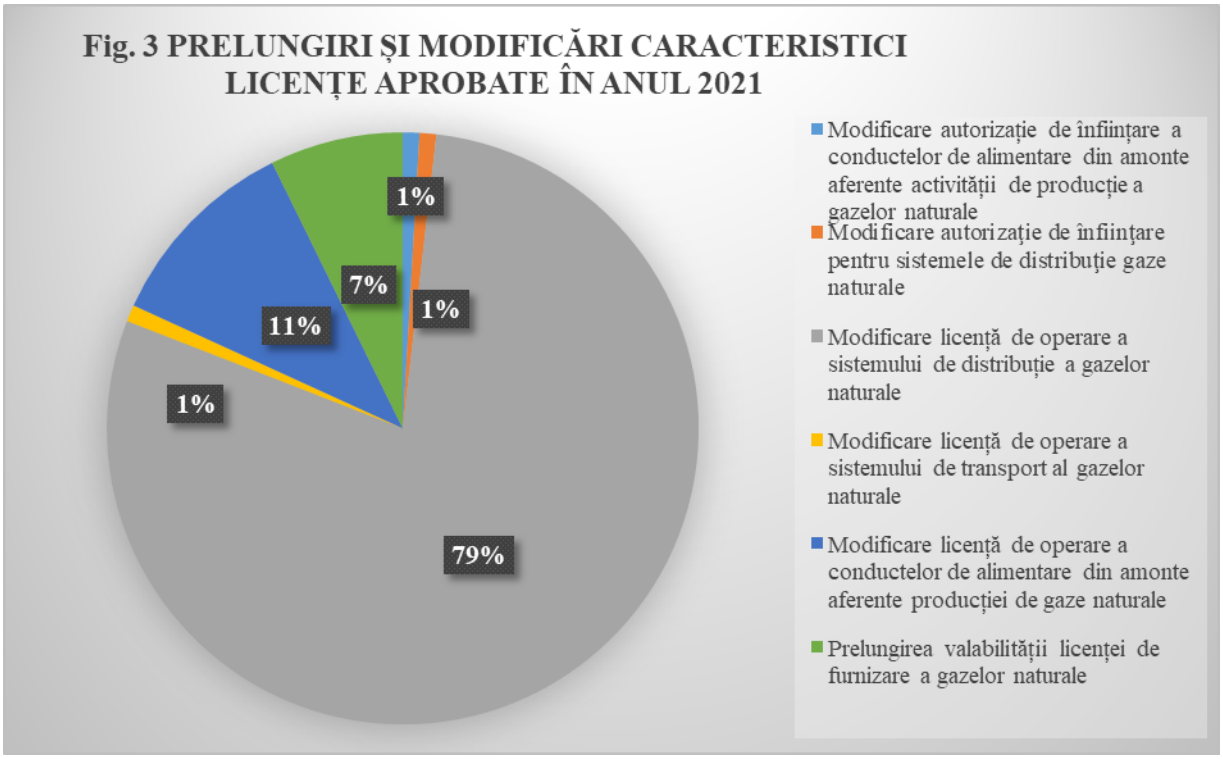
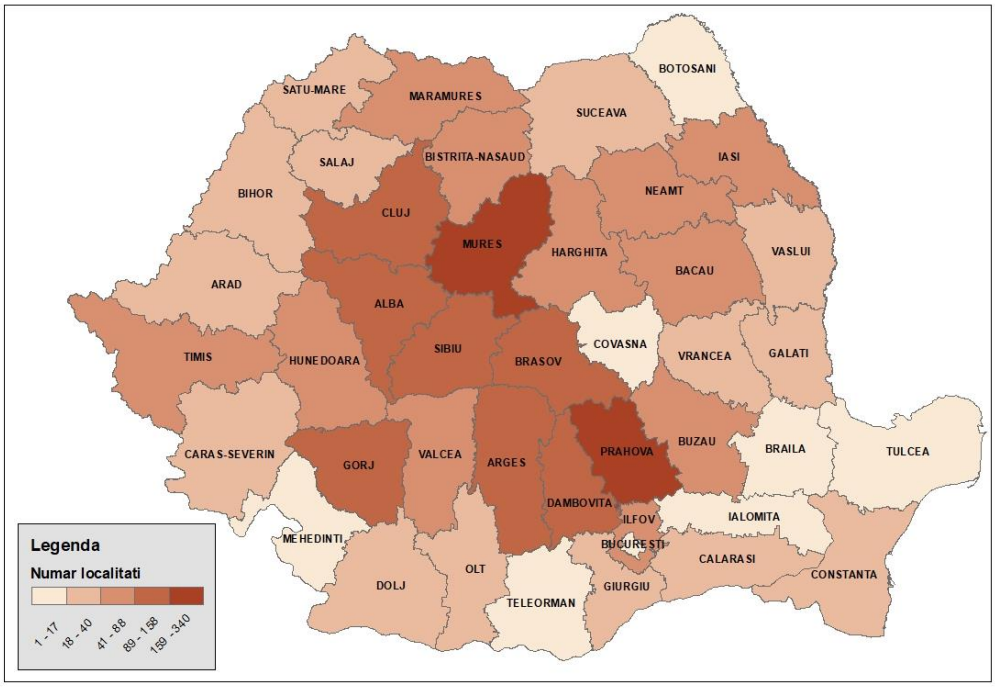


Fig. 3 EXTENSIONS AND CHANGES OF FEATURES OF LICENSES APPROVED IN 2021
Change of the establishment license of upstream supply pipelines related to the production of natural gas, Change of the establishment authorisation for natural gas distribution systems, Change of operation license for natural gas distribution systems, Change of operation license of natural gas transmission systems, Change of operation license for upstream supply pipelines related to natural gas production, Extension of the availability of the natural gas supply license

Fig. 4 Number of localities within each county, where licenses for the operation of the natural gas distribution system are granted



Legend, number of facilities

<u>Authorization of economic operators for design/execution/operation activities</u>

In accordance with the provisions of the ***Regulation for the authorization of economic operators carrying out activities in the field of natural gas and the framework conditions of validity related to authorizations***, approved by means of ANRE Order no. 98/2015, with subsequent amendments and completions, throughout 2021, at the request of economic operators, 568 economic operators were authorized to carry out one or more of the design, execution and operation activities in the natural gas sector, ANRE granting them a number of 1126 authorizations.

As of 31.12.2021, a number of 4543 authorizations held by 1720 economic operators operating in the natural gas sector were in force.

The status of authorizations granted in 2021, broken down per types of authorizations (defined for the activities of design, execution and operation of natural gas assets/systems/installations), is summarized in Figure 5:

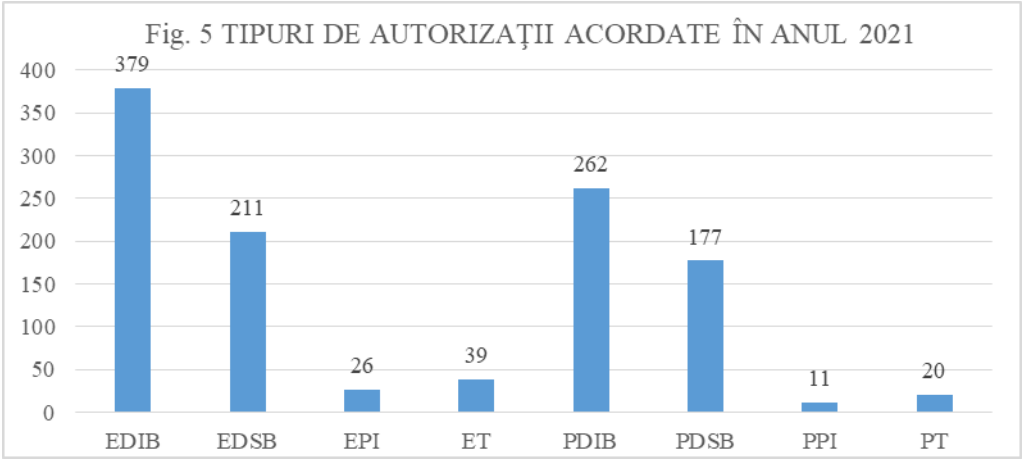


Fig. 5 Types of authorisations granted in 2021

Authorization and certification of natural persons

In accordance with the provisions of the ***Regulation for the authorization of natural persons carrying out activities in the natural gas sector,*** approved by means of ANRE Order no. 182/2020, an exam session was organized for individuals to obtain the quality of authorized plumbers. During 2021, the authorization of authorized plumbers process was extended both in spring and autumn 2021. In total, throughout 2021, approx. 5524 files containing applications for the status of authorized natural gas plumber, as well as the extension of the validity of the authorizations held, for a number of 11669 authorizations, which are presented in figure 6, broken down per type of authorizations, were analysed and resolved.

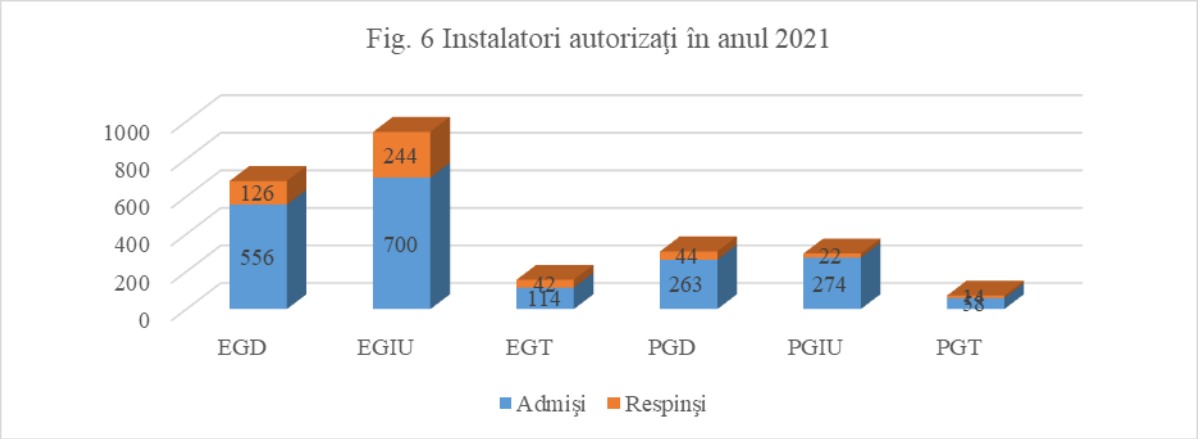


Fig. 6 Authorised technicians in 2021, Passed, Rejected

The number of individuals who passed the approval exam of natural persons carrying out activities in the natural gas sector organized in spring 2021 was approx. 83%.
As of 31.12.2021, 32,044 authorizations held by natural persons carrying out activities in the gas sector were in force.

In accordance with the provisions of the ***Regulation for the certification of project auditors and technical experts for natural gas assets/systems***, approved by means of ANRE Order no. 22/2013, with subsequent amendments and completions, throughout 2021, ANRE granted a number of 27 certificates for project auditors, as well as a number of 18 certifications for technical experts for natural gas assets/systems.

As of 31.12.2021, a number of 283 project auditors and a number of 114 certified technical experts held by natural persons carrying out activities in the natural gas sector were in force.

Issuance of regulations

- **ANRE Order no. 99 of September 30th, 2021 on the approval of the Regulation for the authorization of electricians in the field of electrical installations, namely of project auditors and technical quality experts and extrajudicial experts in the field of technological electrical installations**

The purpose of this Regulation is to simplify and improve the manner in which the administrative procedure for authorizing natural persons carrying out activities related to design, verification and execution of works for electrical installations in SEN is carried out.

- **ANRE Order no. 115 of November 17th, 2021 on the amendment of the Regulation for the granting of licenses and authorizations in the electricity sector, approved by means of Order of the National Energy Regulatory Authority no. 12/2015**

This order aimed to improve the general framework for granting, amending, suspending and withdrawing authorizations and licenses in the electricity sector, correlation with the provisions of higher level normative acts in the application of which the Regulation was issued, namely the provisions of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, as well as to improve access to the use and sharing of spatial data and services, in accordance with the provisions of Directive 2007/2/EC on the establishment of an infrastructure for spatial information in the European Community (INSPIRE).

- **ANRE Order no. 134 of December 15th, 2021 on the approval of the Regulation for the certification of economic operators who design, execute and verify electrical installations**

The purpose of this Regulation is to simplify and improve the process of granting, amending, suspending and withdrawing certificates granted to economic operators designing, executing and verifying electrical installations, as well as to detail the procedure for requesting and obtaining the confirmation of the right of economic operators, foreign legal entities, registered in an EU/EEA/Switzerland Member State, to provide cross-border services for the design, execution and verification of electrical installations in Romania.

- **ANRE Order no. 137 of December 22nd, 2021 approving the Procedure for determining the capacity available in the electricity networks for the connection of new electricity generation installations**

The reason for the development of this regulation is the need to determine the capacity available in power grids, by establishing uniform and non-discriminatory principles and criteria for all power grid operators. Thus, the order lays down the rules for the determination of the available capacity in the transmission power grids and in the distribution power grids at the voltage level of 110 kV and the rules for the transparent and regular publication by the transmission system operator of the data relating to the available capacities in the electrical transmission and distribution networks at the voltage level of 110 kV. This order represents a clear message on facilitating the transfer of useful information to potential investors in terms of electricity generation capacities by making available capacities in power grids more transparent and public.

- **ANRE Order no. 24 of 31.03.2021, by means of which the following were amended:**

1. The Framework conditions for the validity of the license for centralized gas market management approved by means of Order of the National Energy Regulatory Authority **no. 65/2013**, published in the Official Journal of Romania, Part I, no. 554 of September 2nd, 2013**,** with subsequent amendments,
2. The Framework conditions for the validity of the operating license of the natural gas distribution system, approved by means of Order of the National Energy Regulatory Authority **no. 84/2014,** published in the Official Journal of Romania, Part I, no. 699 of September 24th, 2014, with subsequent amendments and completions,
3. The Framework conditions for validity associated with the license for the natural gas supply activity, approved by means of Order of the National Energy Regulatory Authority **no. 64/2018**, published in the Official Journal of Romania, Part I, no. 334 of April 17th, 2018, with subsequent amendments,

4. The Framework conditions for validity associated with the license for LNG supply activity, approved by means of Order of the National Energy Regulatory Authority **no. 90/2018**, published in the Official Journal of Romania, Part I, no. 437 of May 23rd, 2018, with subsequent amendments,
5. The Framework conditions for validity associated with the license for the operation of the underground gas storage system, approved by means of Order of the National Energy Regulatory Authority **no. 109/2018**, published in the Official Journal of Romania, Part I, no. 577 of July 9th, 2018, with subsequent amendments,
6. The Framework conditions for validity associated with the authorization to set up a new gas distribution system, approved by means of Order of the National Energy Regulatory Authority **no. 110/2018**, published in the Official Journal of Romania, Part I, no. 577 of July 9th, 2018, with subsequent amendments,
7. The Framework conditions for validity associated with the authorization to set up new upstream supply pipelines related to natural gas production, approved by means of Order of the National Energy Regulatory Authority **no. 170/2018**, published in the Official Journal of Romania, Part I, no. 844 of October 4th, 2018, with subsequent amendments,
8. The Framework conditions for validity associated with the license for the operation of upstream supply pipes related to natural gas production, approved by means of Order of the National Energy Regulatory Authority **no. 171/2018**, published in the Official Journal of Romania, Part I, no. 847 of October 5th, 2018, with subsequent amendments,
9. The Framework conditions for validity associated with the license for the operation of the natural gas transmission system, approved by means of Order of the National Energy Regulatory Authority **no. 172/2018**, published in the Official Journal of Romania, Part I, no. 856 of October 9th, 2018, with subsequent amendments,
10. The Framework conditions for validity associated with the authorization to set up surface technological installations related to the storage of natural gas, in the case of new storage facilities, approved by means of Order of the National Energy Regulatory Authority **no. 173/2018**, published in the Official Journal of Romania, Part I, no. 846 of October 4th, 2018, with subsequent amendments

and the following were repealed:

11. Order of the National Energy Regulatory Authority no. 72/2018 on the approval of the Framework conditions for validity associated with the license for the activity of supplying CNG/GNCV, published in the Official Journal of Romania, Part I, no. 412 of May 15th, 2018, with subsequent amendments
12. Order of the National Energy Regulatory Authority no. 70/2018 for the approval of the Framework conditions for validity associated with the license for the activity of supplying LPG, published in the Official Journal of Romania, Part I, no. 377 of May 2nd, 2018, with subsequent amendments

- **ANRE Order no. 31/2021 for the approval of the Framework conditions for validity associated with the authorizations for setting up a new direct pipeline**
- **ANRE Order no. 42/2021 for the approval of the Framework conditions for validity associated with the license for the activity of natural gas traders**
- **ANRE Orders no. 103/2021 and no. 112/2021 for the amendment of the Regulation for the granting of establishment authorizations and licenses in the natural gas sector, approved by means of ANRE Order no. 199/2020**

V. RENEWABLE SOURCES OF ENERGY, COGENERATION AND THERMAL ENERGY

1. GENERATION OF ELECTRICITY FROM RENEWABLE SOURCES

Today, Romania's national energy sector has to face all global and local challenges: security of electricity supply, increasing competition and reduction of the environmental impact by means of reducing greenhouse emissions. Romania needs to bridge the economic performance gap compared to the more developed EU countries.

Thus, one of the main challenges of the EU, and implicitly of Romania, relates to the manner in which electricity is ensured, using competitive electricity, with the least environmental impact, in terms of greenhouse gas emissions, in the context of climate change, as well as the growing global demand for electricity, and the uncertain future of traditional (electricity) energy sources.

The increase of investments in green electricity is global and spectacular, and Romania is part of this trend. In the short term, financial efforts for the development of renewable energy are still important, given the promotion of renewable energy production by means of the green certificate promotion scheme in progress; in the long term, investments in research and development make renewable energy a viable solution for energy supply, thanks to the new 30.7% target assumed by Romania for the 2030 time horizon, in terms of the share of energy from renewable energy sources in gross final energy consumption.

1.1. The system of promotion of electricity generated from renewable energy sources

1.1.1. Legislation in the field of promotion of electricity generated from renewable sources

The generation of electricity from renewable sources is an imperative, both for the current period, for the next decade and for the future, so that 100% of electricity can be supplied from renewable sources by 2050. The motivation of such an approach is to protect the environment, reduce greenhouse gas emissions, increase energy independence, diversify supply sources, as well as for economic and social reasons. Therefore, in order to cover the investment costs of installing new E-RES capacities1, at EU level, Member States have set up different support systems for electricity from renewable sources.

1.1.1.1. The European legislative framework

Directive 2018/2001/EC on the promotion of the use of energy from renewable sources adopted on December 11th, 2018 by the European Parliament established, for 2030, a binding target in what concerns the share of energy from renewable energy sources for the gross final energy consumption of the European Union of 32%, collectively ensured by the Member States, with the possibility for this value to be increased by the European Commission in 2023.

Also, in the context of promoting the use of energy from renewable sources, Romania has assumed, by means of the National Integrated Plan in the field of Energy and Climate Change 2021÷2030 the objective to ensure a share of energy from renewable energy sources in the gross final consumption of energy of 30.7% for 2030.

1.1.1.2. The national legislative framework

[1] *E-RES electricity from renewable energy sources*

The transposition of Directive 2009/28/EC into the national legislation was made by the adoption of Law no. 220/2008[2] on the establishment of the system of promotion of the production of E-RES[3], which aimed to make the system of green certificates promotion more attractive for investors, by introducing new facilities, including the granting of a higher number of green certificates, differentiated according to the type of E-RES generation technology.

In order to achieve the national target in 2021, the mandatory quota system combined with the trading of green certificates is still in operation, a system established by means of *Law no. 220/2008* and authorized by the European Commission in July 2011 by means of *Decision C(2011) 4938*[4] and amended in 2015 by means of Decision C(2015) 2886 and in 2016 by means of Decision C(2016) 8865/2016.

Also, in order to achieve the mandatory target regarding the share of energy from renewable sources, it is already well known that installations for the generation of electricity from small-scale renewable energy sources can bring an important contribution, as such, Romania established, by means of *Law no. 220/2008,* amended in 2018 by means of Law No. 184/2018 for the approval of GEO no. 24/2017[5], the system for the promotion of electricity generated in units for the generation of electricity from renewable sources, with installed electricity power of no more than 27 kW per consumption site belonging to prosumers, threshold successively increased both in 2020, to 100 kW/site of consumption by means of the adoption of Law no. 155/2020, and in 2021, to 400 kW/site of consumption by means of the adoption of GEO no. 143/2021.

A. Primary legislation on the promotion of electricity generated from renewable energy sources

1. *Law no. 220/2008 for establishing the system of promoting the production of E-RES, republished, with subsequent amendments and completions, referred to below (Law no. 220/2008).*
2. *Law no. 139/2010 amending and supplementing Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources.*
3. *GEO no. 88/2011 amending and supplementing Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources.*
4. *Law no. 134/2012 for the approval of Government Emergency Ordinance no. 88/2011 on amending and supplementing Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources.*
5. *Government Emergency Ordinance no. 57/2013 on amending and supplementing Law no. 220/2008 on establishing the system of promoting the generation of energy from renewable energy sources, published in the Official Journal of Romania, Part I, no. 335 of June 7th, 2013.*

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[2] Law no. 220/2008, for establishing the system of promoting the generation of energy from renewable sources, republished with subsequent amendments and completions

[3] E-RES electricity from renewable energy sources

[4] Decision C(2011) 4938 on the state aid SA 33134 (20011/N) for Romania – green certificates for promoting the generation of electricity from renewable energy sources

[5] Government Emergency Ordinance no. 24/2017 amending and supplementing Law no. 220/2008 for the establishment of the system of promoting the generation of energy from renewable energy sources and amending certain normative acts

6. *Government Decision no. 994/2013 on the approval of measures to reduce the number of green certificates (CV) in the situations referred to in Article 6 paragraph (2) letters a), c) and f) of Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources.*
7. *Law no. 23/2014 for the approval of Government Emergency Ordinance no. 57/2013 on amending and supplementing Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources.*
8. *Law no. 122/2015 approving measures in the field of promoting the generation of electricity from renewable energy sources and amending and supplementing certain administrative acts.*
9. *GEO no. 24/2017 on amending and supplementing Law no. 220/2008 on establishing the system of promoting the generation of energy from renewable energy sources and amending certain normative acts.*
10. *Law no. 184/2018, for the approval of Government Emergency Ordinance no. 24/2017 on amending and supplementing Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources and amending certain normative acts.*
11. *Law no. 360/2018, amending Article 8 paragraph (1) letter b) of Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources.*
12. *Law no. 155/2020 amending and supplementing the Law on electricity and natural gas no. 123/2012 and amending and supplementing other normative acts led to the amendment of the regulatory framework related to the system of promoting the generation of electricity from renewable energy sources.*
13. *GEO no. 143/2021 amending and supplementing the Law on electricity and natural gas no. 123/2012, as well as amending certain normative acts.*

B. Secondary legislation on the promotion of electricity generated from renewable energy sources:

According to the provisions of *Law no. 220/2008*, the mandatory annual quotas of green certificates have been established, which, starting with 2018, are considering the establishment of an annual average impact of green certificates (CV) in the final consumer electricity bill, established according to the provisions of Article 4 paragraph (7) of Law no. 220/2008, i.e. 13 EUR/MWh for 2021.

In order to carry out the monitoring of the system of promotion of electricity generated from renewable energy sources, the following regulations were applicable throughout 2021:

- *Regulation amending, suspending, interrupting and withdrawing the certification granted to power plants for the production of electricity from renewable energy sources, as well as establishing the rights and obligations of certified electricity producers*, approved by means of ANRE Order no. 179/2018, with subsequent amendments and completions;
- *Regulation for issuing green certificates*, approved by means of ANRE Order no. 4/2015, with subsequent amendments and completions;

- *Regulation on the organization and functioning of the green certificates market*, approved by means of ANRE Order no. 77/2017, with subsequent amendments and completions;
- *Methodology for establishing the mandatory annual quota for the purchase of green certificates*, approved by means of ANRE Order no. 157/2018, with subsequent amendments and completions*;*
- *Rules on the registration in the Register of Green certificates of green certificates consumed for the fulfilment by economic operators of the obligation to purchase green certificates for the 2018 analysis year*, approved by means of ANRE Order no. 164/2018*;*
- *The procedure for billing green certificates, approved by means of ANRE Order no. 187/2018;*
- *Regulation on the functioning of the centralized market for electricity from renewable sources supported by means of green certificates*, approved by means of ANRE Order no. 160/2019
- *Methodology for monitoring the system for promoting the generation of electricity from renewable energy sources*, approved by means of ANRE Order no. 195/2019, with subsequent amendments and completions.

Starting with 2018, Romania began to pay special attention[6] to promoting the production of E-RES intended to ensure local consumption by means of the distributed production of E-RES by prosumers. Thus, in the case of prosumers, during 2021, the applicable regulations were as follows:

- *ANRE Order no. 226/2018 for the approval of the rules for the marketing of electricity generated in power plants from renewable sources with installed electrical power of no more than 27 kW belonging to prosumers, with subsequent amendments and completions, for the period January-June, namely ANRE Order no. 50/2021 for the period July-December;*
- *ANRE Order no. 227/2018 for the approval of the Framework contract for the sale and purchase of electricity produced by prosumers who own power plants for the generation of electricity from renewable sources with installed power of no more than 27 kW per consumption site and for the amendment of certain regulations in the electricity sector, with subsequent amendments and completions;*
- *ANRE Order no. 228/2018 for the approval of the technical norm "Technical conditions for connection to power grids of public interest for prosumers with active power injection in the grid", with subsequent amendments and completions;*
- *ANRE Order no. 195/2019 for the approval of the Methodology for monitoring the system of promoting the generation of electricity from renewable energy sources, with*

[6] *According to the provisions of Law no. 184/2018 for the approval of GEO no. 24/2017 amending and supplementing Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources and for amending certain normative acts, prosumers who own units for generating electricity from renewable sources with installed power of no more than 27 kW (subsequently increased to 100 kW by Law no. 155/2020) per consumption site, can sell the electricity generated and delivered in the power grid of the electricity suppliers with whom they have concluded electricity supply contracts, according to ANRE regulations*

subsequent amendments and completions, for the period January-June, namely ANRE Order no. 52/2021 for the period July-December.

1.1.2. Description of the system of promotion of electricity generated from renewable energy sources

1.1.2.1. The system of promotion of electricity generated from renewable energy sources by means of green certificates

The system of promotion of electricity generated from renewable energy sources by means of green certificates (CV) established by *Law no. 220/2008*, applies for electricity generated and delivered on the power grid and/or directly to consumers in new or upgraded/reused plants that fall into the green certificates (CV) promotion scheme, including for the amount of electricity generated during the trial period of the operation of power groups/plants, and for that used for other own consumption sites connected to the bars of power plants (excluding grid losses) and produced from the following renewable energy sources:

a) hydro-energy used in power plants with an installed capacity ≤ 10 MW;
b) wind energy;
c) solar energy;
d) biomass (irrespective of the form of aggregation) from biological waste (electricity generation or electricity generation in high-efficiency cogeneration);
e) biomass (regardless of the form of aggregation) from energy crops (exclusive electricity generation);
f) waste fermentation gas;
g) sludge fermentation gas from waste water treatment plants.

The green certificates (CV) promotion scheme also applies to electricity generated in wind power groups/plants that have been used for electricity generation in other States ("second-hand"), if they are used in isolated systems or if they were commissioned on the territory of Romania before the date of application of the promotion system provided by means of *Law no. 220/2008*; the period of application of the promotion system for this generated electricity totals 7 years.

In accordance with the provisions of Article 3 (6) of *Law no. 220/2008* the system of promoting the generation of E-RES does not apply to:

a) electricity generated from industrial and/or municipal waste purchased from import, irrespective of the installed power of the power plant;
b) electricity generated in pumped water storage plants, that use water previously pumped into the upper basin;
c) electricity generated in power plants using renewable and conventional energy sources in the same combustion plant, where the energy content of the conventional fuel used exceeds 10 % of the total energy content;
d) electricity related to the plant's grid losses (CPT);
e) electricity produced in photovoltaic power plants located on land that, after December 31st, 2013, was set up as agricultural land, under the law;
f) electricity produced, including during the trial period, in groups or power plants using renewable energy sources, for which the reduced number of green certificates calculated in accordance with Article 6(7)(b), corresponding to the accumulation of aid means, is less than or equal to zero;

g) electricity produced in power plants located on vehicles of any kind, except for electricity produced in power plants using renewable sources connected to isolated power systems.

In order for an E-RES producer to benefit from the green certificates' promotion system, the latter must have been certified by ANRE by December 31st, 2016, in accordance with the provisions of the regulations in force, being granted a certification decision for the application of the green certificates promotion system.

Green certificates shall be granted by the transmission system operator (TSO) to the producers of E-RES on the basis of the provisions of Order of the President of ANRE no. 4/2015, with subsequent amendments and completions.

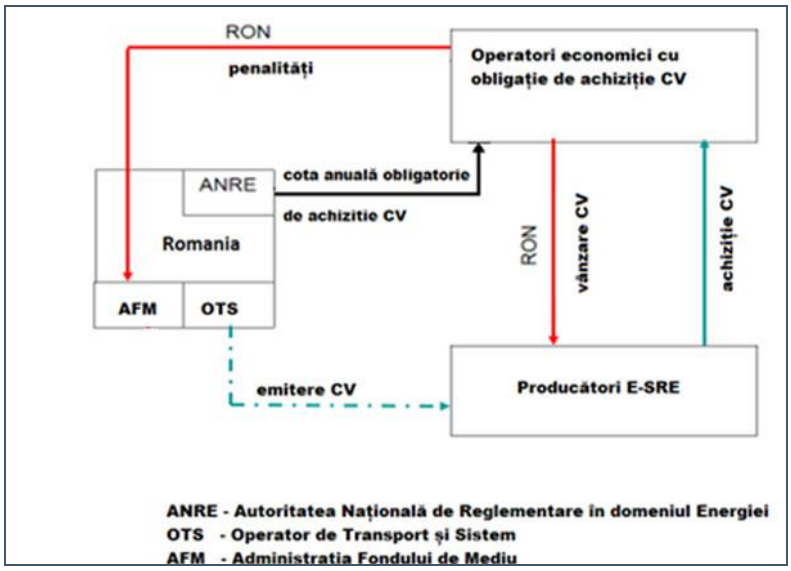
According to the legal provisions in force at the time of certification, the number of green certificates received by E-RES producers for every 1 MWh delivered is between 0.5 green certificates and 6 green certificates, depending on the type of renewable energy source used and the date on which the plant was certified.

Electricity suppliers shall be required to annually purchase a green certificates' number equivalent to the result of the multiplication of the value of the mandatory quota for the purchase of green certificates established for that year and the quantity of electricity annually supplied to final consumers.

The mandatory annual quota for the purchase of green certificates set by ANRE represents the number of green certificates that an electricity supplier is obliged to purchase for each MWh of electricity that is marketed to consumers.

The number of green certificates that electricity suppliers/producers are required to purchase annually for every 1 MWh of electricity sold to final consumers shall be determined as a product of the amount of the mandatory annual quota for the purchase of green certificates set for that year and the amount of electricity billed annually to final consumers by each electricity supplier/producer with the obligation to purchase green certificates. In case of failure to purchase green certificates, penalties shall apply in what concerns economic operators with the obligation to purchase green certificates.

The operation of the green certificate system is shown in the figure below:



RON, penalties, Economic operators who are subject to the obligation of Green contracts' purchase, annual mandatory green certificates' purchase quota, ANRE, ROMANIA, AFM,

TSO, Green certificate issuance, E-RES producers, Green certificate sale, Green certificate purchase, ANRE – National Energy Regulatory Authority, TSO – Transmission System Operator, AFM – Environment Fund Administration

By the entry into force of Law no. 184/2018, electricity suppliers are obliged to annually purchase a green certificates' number equivalent to the product of the value of the mandatory quota for the purchase of green certificates established for that year, according to Article 4 paragraph (9^1) of *Law no. 220/2008*, and the amount of electricity delivered to final consumers, so that the average impact to the final consumer is no more than EUR 11.7/MWh in 2018, EUR 12.5/MWh in 2019, EUR 13/MWh in 2020 and 2021 and EUR 14.5/MWh as of 2022. The value in RON is calculated according to the average exchange rate established by the National Bank of Romania (BNR) for the previous year, and the price of green certificates used for the previous year is calculated as a weighted average value of the price of green certificates from transactions on the anonymous centralized green certificates' spot market of the previous year.

Under the annual obligation, the quarterly green certificates' purchase obligation was established for the quantity of electricity billed quarterly to the final consumers, to which the estimated mandatory quota of green certificates' acquisition applies, established in accordance with Article 4 paragraph (7) of *Law no. 220/2008*, as amended by the provisions of Law no. 122/2015.

By the entry into force of Law no. 155/2020, prosumers, natural persons, legal entities and local public administration authorities that own power plants that generate energy from renewable sources, as well as natural persons or legal entities that possess units for the generation of electricity from renewable sources are exempted from the obligation of annual and quarterly acquisition of green certificates provided for in Article 8 (2) and (2 ^ 1) of (*Law no. 220/2008*) for electricity generated and used for own final consumption, other than grid losses of the power plant.

For 2021, ANRE established the mandatory quota for the purchase of green certificates at the value of 0.449792 green certificates/MWh, on the basis of the number of green certificates supported by the green certificates promotion scheme during that period and the final consumption of electricity minus the final consumption of exempted electricity of 8934.6903 GWh of that period, determined so that the average consumer impact for 2021 amounts to EUR 13/MWh.

With the entry into force of the Regulation on the functioning of the centralized market for electricity from renewable sources supported by green certificates (CV), E-RES producers have the possibility to trade electricity from renewable sources supported by green certificates (PCE-ESRE-CV).

The following entities can register on the centralized market for renewable electricity supported by green certificates (CV):

- as sellers:
  - producers of energy from renewable sources, holders of licenses for the generation of E-RES benefiting or who have benefited in the past from the green certificates (CV) promotion system, including natural persons or legal entities who, according to the legal provisions, may carry out E-RES trading activities in the electricity sector without holding a license granted by the National Energy Regulatory Authority;
- as buyers:
  - electricity suppliers and economic operators equated to them, with a green certificates' procurement obligation;

- E-RES producers who are in a situation of not achieving the contracted green certificates' number, assumed based on a bilateral contract with an electricity supplier, can purchase the difference in centralized green certificates' markets, only to cover this difference.

When establishing the quota for the purchase of green certificates, until March 31st, 2022, ANRE took into account the number of green certificates issued for electricity produced from renewable energy sources for 2021 and the final consumption of electricity for 2021, so that the average impact on the final consumer in 2021 totals EUR 13/MWh.

As regards the validity period of green certificates, throughout 2021, green certificates received by the producers of E-RES starting with April 01st, 2017 and green certificates postponed from trading starting with July 01st, 2013 that will be tradeable until March 31st, 2032, were traded on the Green certificates' market (PCV), in accordance with the provisions of GEO no. 24/2017.

Starting with the date of entry into force of GEO no. 24/2017, a green certificate has the value set at the time of trading and not at the time of issuance, the trading value of green certificates on the green certificates' market was established between:

- a minimum trading value of EUR 29.4/green certificate;
- a maximum trading value of EUR 35/green certificate.

The value in RON is calculated at the average exchange rate established by the National Bank of Romania for the previous year.

In the event of failure to achieve annual purchase quotas, which represent the number of green certificates that an electricity supplier is required to purchase for every 1 MWh of electricity sold to final consumers, penalties shall apply to electricity suppliers, as such, they are obliged to pay the unpaid green certificates value to the Environment Fund Administration, at a value equal to 70 EUR/green certificate for each green certificate not purchased, calculated in RON, at the average value of the exchange rate established by the National Bank of Romania for the previous year.

1.1.2.2. System for the promotion of electricity generated in renewable power plants with installed electricity of no more than 100 kW belonging to prosumers

The system of promotion of electricity generated in power plants from renewable sources with installed electricity of no more than 100 kW belonging to prosumers shall apply to these prosumers, provided that they do not benefit from the green certificates' promotion system. Prosumers with renewable power plants with an installed power of no more than 100 kW may sell electricity generated and delivered to electricity suppliers with whom they, as final consumers, have concluded/conclude contracts for the supply of electricity, at the price stipulated by Law no. 220/2008.

According to the provisions of Art. 2 letter x ^ 1 of *Law no. 220/2008 "the prosumer is the final customer who owns electricity generation installations, including cogeneration, whose specific activity does not relate to the production of electricity, who consumes and can store and sell the E-RES generated in the former's own building, including an apartment building, a residential area, a shared service, commercial or industrial establishment or in the same closed distribution system, provided that, in the case of non-renewable non-household energy consumers, these activities do not constitute their primary commercial or professional activity"*

Thus, prosumers, private individuals, other than those organized according to Government Emergency Ordinance no. 44/2008 on the conduct of economic activities by

authorized individuals, individual enterprises and family enterprises, approved with amendments and completions by means of Law no. 182/2016, can carry out the activity of trading electricity generated in the electricity generation units they own, without the need to register and have their operation authorised.

Starting with the date of entry into force of the contract for the sale and purchase of electricity, electricity suppliers are required to purchase electricity generated in power plants from renewable sources with installed electricity power of no more than 100 kW per consumption site belonging to the prosumers and delivered to the electricity grid, at a price equal to the weighted average price recorded on the day-ahead market in the previous year, published by the company "Operatorul Pieței de Energie Electrică și de Gaze Naturale OPCOM" - S.A. on its own website, on the first business day of January of each calendar year.

The development of the annual average of the weighted average price recorded in the DAM in the period 2018-2021 is found below:

- 223.24 RON/MWh, in 2018
- 251.21 RON/MWh, in 2019
- 196.56 RON/MWh, in 2020
- 539.00 RON/MWh, in 2021

As a result of the aforementioned aspects, prosumers eligible for the application of the system of promotion of electricity generated in renewable power plants with installed power of no more than 100 kW belonging to prosumers benefited in 2021 from the sale of electricity generated and delivered in the power grid at an average price of 196.56 RON/MWh, according to the legal provisions.

Obligations of distribution system operators and electricity suppliers regarding prosumers

The legal provisions in force stipulate the obligation of distribution operators to ensure the connection to the distribution network, namely the obligation of electricity suppliers to take over, at the request of the prosumers, the surplus electricity delivered to the power grid by prosumers.

Prosumers natural persons, other than those organized according to Government Emergency Ordinance no. 44/2008 on the conduct of economic activities by authorized individuals, individual enterprises and family enterprises, approved with amendments and completions by means of Law no. 182/2016, who possess power plants generating electricity from renewable energy sources with installed electricity power of no more than 27 kW per consumption site, have benefited, in 2021, from the electricity suppliers with whom they have concluded electricity supply contracts, in the bill issued by the electricity supplier, from the regularisation service (algebraic sum) between the value of electricity delivered by the prosumer on the grid (minus sign) and the value of electricity consumed from the grid (plus sign). The value of the electricity delivered was distinctly highlighted in the electricity bills with the minus sign and was calculated as the product of the amount of electricity generated and delivered by the prosumer in the power grid and the weighted average price recorded in the day-ahead market in the previous year. In the case of natural persons prosumers who own power plants for the generation of electricity from renewable energy sources with installed electricity power over 27 kW per site of consumption, but no more than 100 kW per site of consumption, as well as in the case of legal entities prosumers, according to the applicable tax regulations, compensation between the following bills was applied:

(i) the bill issued by the prosumer for electricity generated from renewable sources and delivered on the power grids, in accordance with the specific provisions of the contract for the sale and purchase of electricity generated in renewable energy plants referred to in Article 1(1) and delivered to the power grid, concluded between the prosumer and the supplier; and

(ii) the bill issued by the electricity supplier for electricity consumed from the power grids by the prosumer, as a consumer.

Prosumers who possess units for the generation of electricity from renewable energy sources with installed electricity of no more than 100 kW per site of consumption, certified to benefit from the green certificates' promotion system, were able to opt, at the level of 2021, for the sale of electricity produced in the respective plants at the legally established price. Based on the data transmitted by electricity suppliers or prosumers, during the period of validity of the contract for the sale-purchase of electricity, ANRE suspends the decision regarding the certification of the electricity generation unit for the application of the green certificates' promotion system. During the period of suspension of the certification for the application of the system of green certificates' promotion of electricity generation units, for electricity generated and delivered to the power grid, prosumers do not benefit from green certificates.

If the prosumer requests the termination of the sale-purchase contract regarding the generated energy concluded with the electricity supplier, the prosumer may request ANRE to cease the suspension of the certification decision, so that, after the suspension has ended, the prosumer may continue to benefit from the green certificates' promotion system.

Also, prosumers who own power plants are exempted from the obligation to purchase green certificates provided for in Article 8 paragraph (2) and (2 ^ 1) of Law no. 220/2008, for electricity generated in renewable electricity capacity with installed electricity of no more than 100 kW per consumption site.

1.1.3. Monitoring the operation of the E-RES promotion system

Monitoring of the system of promotion of electricity generated from renewable energy sources by means of green certificates (CV) is established on the basis of the provisions of Article 20 of *Law no. 220/2008*, according to which ANRE monitors the development and functioning of the green certificates' market, prepares and publishes, on an annual basis on its website, by June 30th, a report on the functioning of the system for promoting electricity from renewable sources, namely ANRE annually publishes on its website the share of electricity generated from renewable sources in the gross final consumption of electricity, for the previous year.

1.1.3.1. Monitoring of the system of promotion of electricity generated from renewable energy sources by means of green certificates

The system of promoting electricity generated from renewable sources by means of green certificates has been in operation as of 2005. The following sections describe the development of the main indicators of this sector for the period 2005÷2021.

The access of E-RES producers to the scheme for promoting the generation of electricity from renewable energy sources had the deadline of December 31st, 2016[7].

[7] *Pursuant to Article 2554 of the New Civil Code and Council Regulation (EC, Euratom) no. 1182/71 of June 3rd, 1971 laying down the rules applicable to terms, dates and time limits*

During the period of application of the E-RES generation promotion scheme, 778 producers were certified. The number of certified E-RES producers at the end of 2021 was 746 (8 of them having plants for 2 types of production technologies), divided per source types, as follows: 59 use wind energy, 101 use hydraulic power in power plants with an installed power of no more than 10 MW, 558 use solar energy and 28 use biomass, including waste fermentation gas and sludge fermentation gas from wastewater treatment plants.

In Table 1 below, the development of the number of certified E-RES producers and the installed electrical power, per types of renewable energy sources, in the period 2013÷2021, are presented.

Table no. 1

Surse regenerabile de energie/tehnologie	Producători E-SRE																	
	număr									Pi [MW]								
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2013	2014	2015	2016	2017	2018	2019	2020	2021
Centrale eoliene	60	64	66	67	67	66	66	63	59	2593	2810	2932	2963	2962	2961	2961	2960	2960
Centrale hidro, Pi<=10 MW, din care:	69	100	104	103	103	102	103	103	101	263	295	314	348	342	341	336	321	304
- Centrale hidro retehnologizate, Pi<=10 MW	9	15	15	19	19	18	17	17	15	50	82	88	68	62	61	56	55	48
Centrale pe bază de biomasă – toate tipurile de tehnologii (inclusiv cogenerare) și gaz de fermentare EE din deșeuri municipale, ape uzate	14	14	25	28	28	28	28	28	28	66	81	107	124	124	124	124	124	124
Centrale fotovoltaice	370	403	514	577	576	576	573	568	558	1124	1217	1296	1360	1359	1359	1358	1358	1357

Renewable energy sources/technology, E-RES producers, number, Wind power plants, Hydro plants, of which: Re-engineered hydro plants, Bio mass plants – all types of technologies (including cogeneration) and EE fermentation gas from municipal waste, waste water, Photovoltaics plants

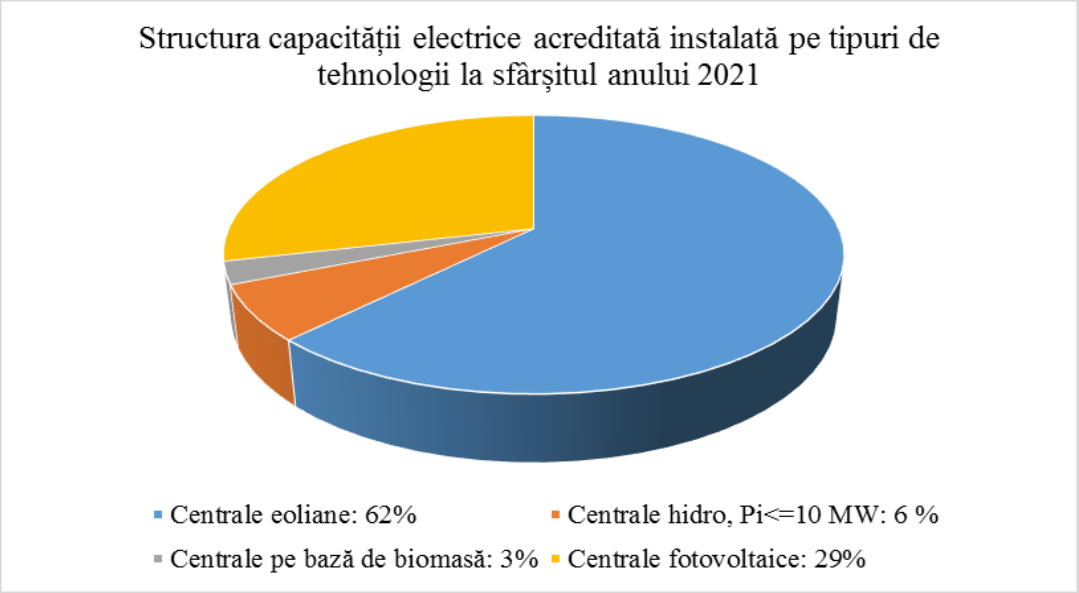
The report on the number of E-RES producers for which certification decisions have been amended/suspended/withdrawn throughout 2021, in accordance with the provisions of the *Regulation on amending, suspending, interrupting and withdrawing the certification granted to power plants for the generation of electricity from renewable energy sources, approved by means of ANRE Order no. 179/2018, with subsequent amendments and completions*, as well as establishing the rights and obligations of certified electricity producers, is presented in the table below:

Table no. 2

ANRE decision type	**No. of producers**
Decision to change certification	18
Decision to grant certification	18
Decision to withdraw certification	1
Decision to suspend certification	5

At the end of 2021, the certified installed capacity in E-RES generation units was 4745 MW, down by 18 MW, when compared to 2020, representing the electrical capacities for which the certification period expired. Figure 1 below shows the structure of the certified installed electrical capacity per types of technologies at the end of 2021

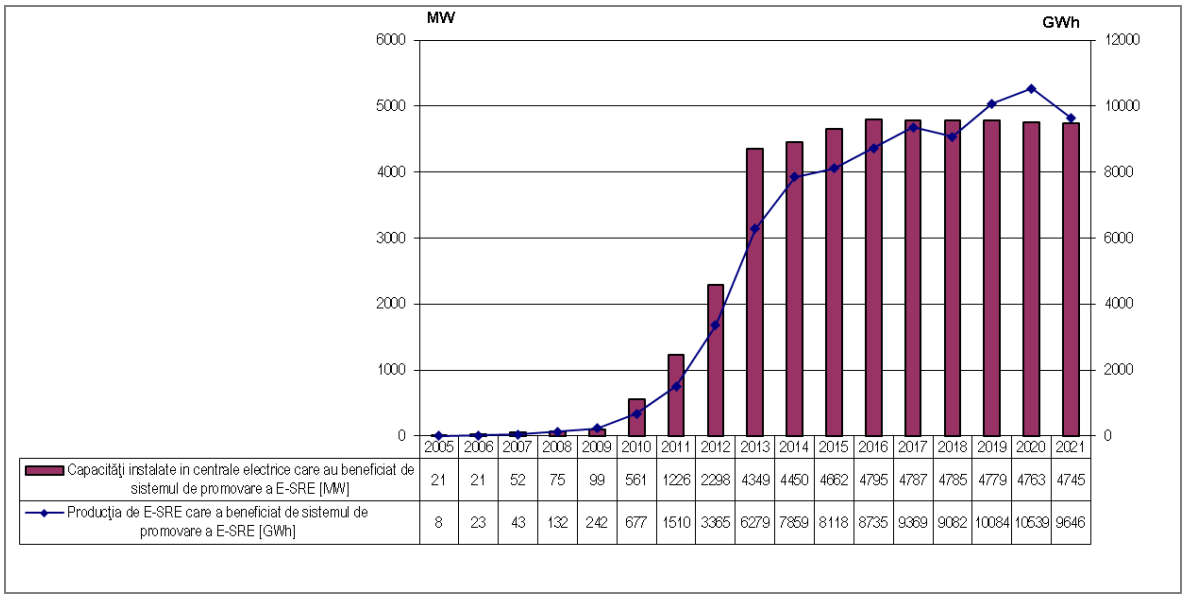
Figure no. 1



Structure of certified installed electric capacity per technology types at the end of 2021, Wind plants, Hydro plants, Bio mass plants, Photovoltaic plants

E-RES that benefited from the promotion scheme during 2021 amounted to 9646 GWh. In Figure 2, the development of the electrical capacity installed in power plants that benefited from the E-RES promotion system and of the electricity generated in these plants for the period 2005÷2021 is presented.

Figure no. 2



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Capacităţi instalate in centrale electrice care au beneficiat de sistemul de promovare a E-SRE [MW]	21	21	52	75	99	561	1226	2298	4349	4450	4662	4795	4787	4785	4779	4763	4745
Producţia de E-SRE care a beneficiat de sistemul de promovare a E-SRE [GWh]	8	23	43	132	242	677	1510	3365	6279	7859	8118	8735	9369	9082	10084	10539	9646

Capacities installed in electric plants that have benefited from the E-RES promotion system, Generation of E-RES that has benefited from the E-RES promotion system

Note 1: The capacity values installed in power plants that have benefited from the E-RES promotion system are related to each end of the calendar year

For electricity generated in certified power plants, renewable energy producers are granted on a monthly basis green certificates by the transmission system operator (TSO). The number of green certificates received by the E-RES producers for every 1 MWh produced and delivered to the power grid and/or to the final consumers depends on the type of

renewable energy source, and, in the case of hydro and wind energy, also depends on the previous use of equipment (refurbished and re-used plants).

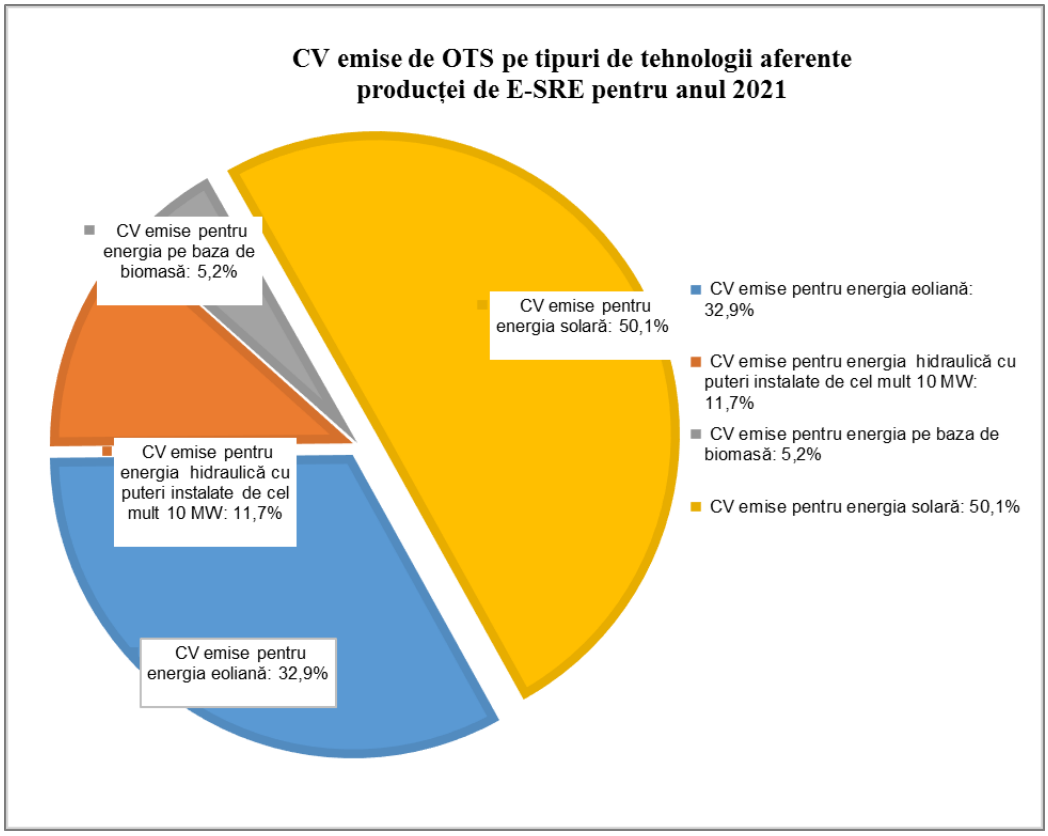
In 2021, a number of 22 523 780 green certificates were issued, of which 18 343 015 green certificates for the production of E-RES amounting to 9 646 GWh and a number of 4 180 765 green certificates deferred from trading for wind plants (1 892 764 green certificates), photovoltaic plants (2 048 337 green certificates) and hydroelectric plants (239 664 green certificates).

The distribution per type of renewable source for green certificates issued for trading is as follows:

- 6 035 113 green certificates for electricity generated in power plants producing electricity from wind energy;
- 2 152 900 green certificates for electricity generated in power plants producing electricity from hydraulic power with installed power of no more than 10 MW;
- 955 919 green certificates for electricity generated in biomass plants, including waste fermentation gas and sludge fermentation gas from waste water treatment plants;
- 9 199 083 green certificates for electricity generated in power plants producing electricity from solar energy.

The share of green certificates issued by TSOs for trading per types of technologies related to the production of E-RES for 2021 is shown in Figure 3 below

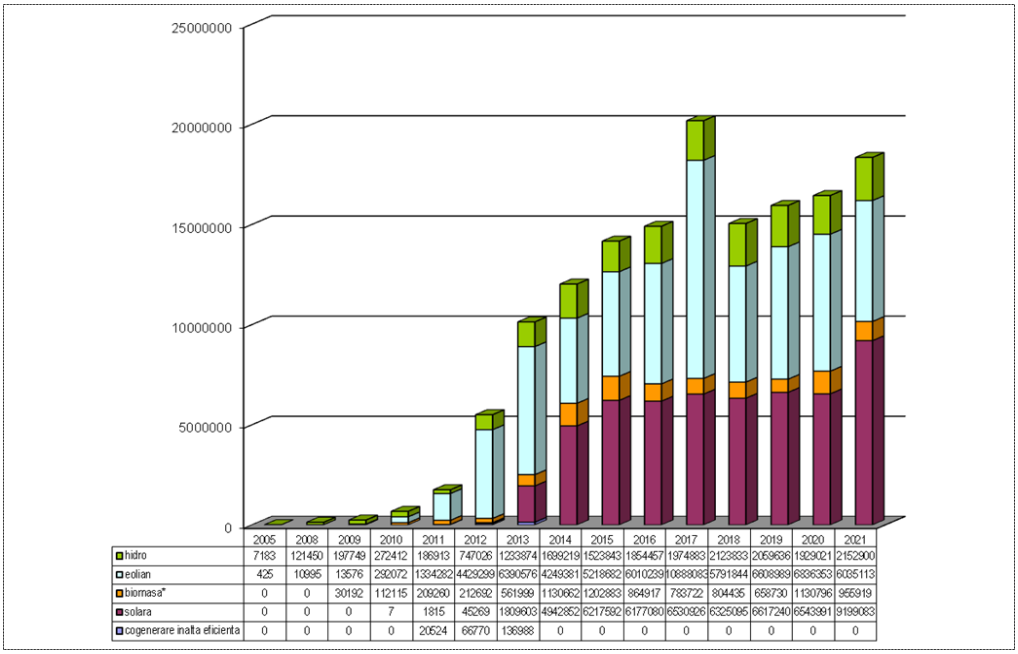
Figure no. 3



Green certificates issued by TSO per technology types related to the generation of E-RES for the year 2021, Green certificates issued for bio mass-based energy, Green certificates issued for solar power, Green certificates issued for hydraulic energy with installed capacities of 10 MW maximum, Green certificates issued for wind power

Figure 4 shows the annual development of the number of green certificates issued since the application of the E-RES promotion scheme to date.

Figure no. 4

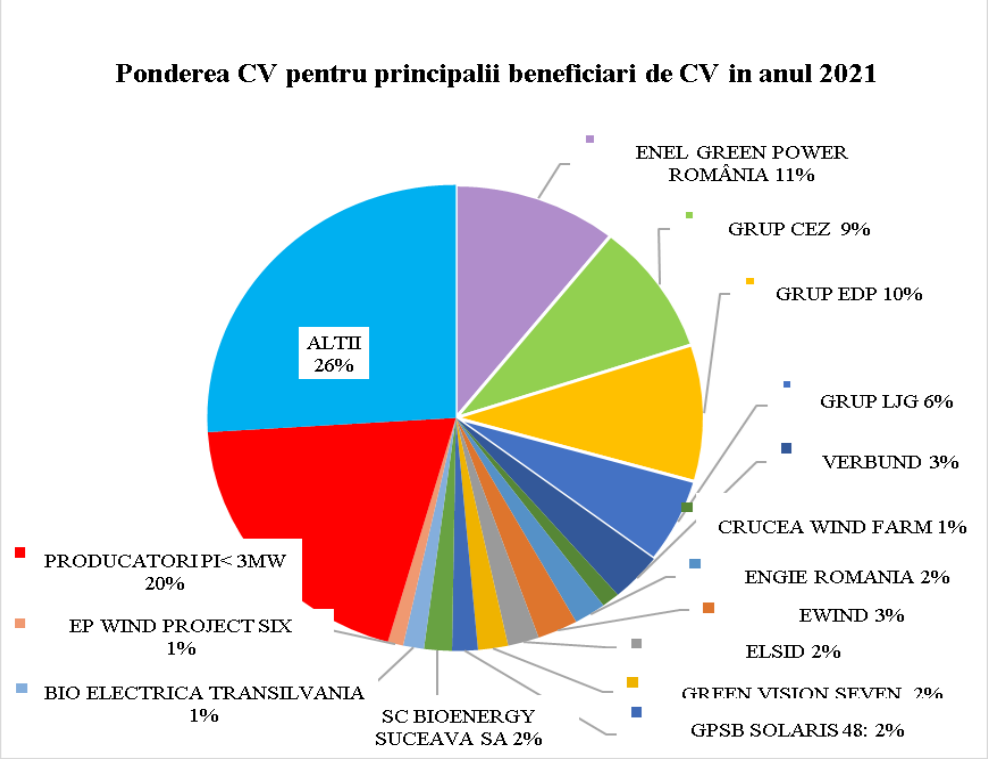


	2005	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
hidro	7183	121450	197749	272412	186913	747026	1233874	1699219	1523843	1854457	1974883	2123833	2059636	1929021	2152900
eolian	425	10995	13576	292072	1334282	4429299	6390576	4249381	5218682	6010239	10888083	5791844	6808989	6836353	6035113
biomasa*	0	0	30192	112115	208260	212692	561999	1130662	1202883	864917	783722	804436	658730	1130796	955919
solara	0	0	0	7	1815	45269	1809603	4942852	6217592	6177080	6530926	6325095	6617240	6543991	9199083
cogenerare inalta eficienta	0	0	0	0	20524	66770	136988	0	0	0	0	0	0	0	0

Hydro, Wind power, Bio mass, Solar power, High efficiency cogeneration*
**biomass value also contains high-efficiency cogeneration*

The structure of the main green certificates' beneficiaries is shown in the figure below.

Figure no. 5

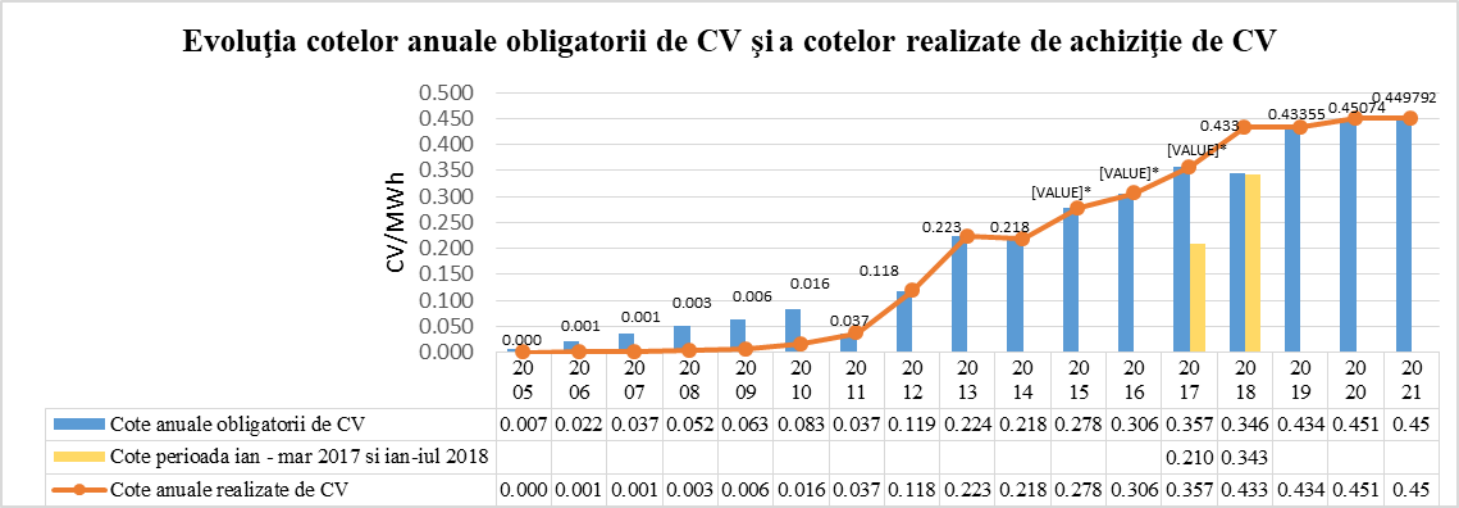


Green certificates' weighting for main Green certificates' beneficiaries in 2021, Misc

Figure 5 shows that, by summing up the percentages of E-RES producers benefiting from green certificates with a share of over 4%, a percentage of 35% of green certificates issued in 2021 were granted for: Enel Green Power Romania, Grup CEZ România, Grup EDP România, LJG Grup, and 20% represents a number of 549 producers with an installed power of less than 3 MW.

For 2021, ANRE established the mandatory quota for the purchase of green certificates at the value of 0.449792 green certificates/MWh, on the basis of the number of green certificates supported by the green certificate promotion scheme during that period and the final consumption of electricity minus the final consumption of electricity exempted, 8934.6903 Gwh, from that period, determined so that the average consumer impact for 2021 amounts to EUR 13/MWh.

Figure 6 shows the development of the mandatory annual quotas of green certificates and the quotas achieved by the purchase of green certificates by the economic operators with the obligation to purchase green certificates, during the period 2005÷2021.



Development of annual mandatory Green certificate quotas and achieved Green certificates' purchase quotas, Annual mandatory green certificate quotas, Quotas for Jan – March 2017 and Jan – July 2018, Annual achieved green certificates' quotas

Figure no. 6

Note: 1) The mandatory quota for the purchase of green certificates for 2017 was:

- *for the period January - March 2017, at the value of: 0.210 green certificates/MWh;*
- *for the period April - December 2017, at the value of: 0.357 green certificates/MWh.*

The mandatory quota for the purchase of green certificates for 2018 was:

- *For the period January - July 2018, at the value of 0.343 green certificates/MWh*
- *For the period August - December 2018, at the value of 0.433 green certificates/MWh*

Note: 2) As of 2015, the calculation of the mandatory quota for the purchase of green certificates has taken into account the annual exempted consumption of electricity

Green certificates received by the producers of E-RES from the TSOs shall be traded on the green certificates' market and on the PCE-ESRE-CV. With the entry into force of GEO no. 24/2017, both green certificates issued for trading and green certificates postponed for trading starting with July 01st, 2013 are valid and can be traded until March 31st, 2032.

The trading of the green certificates issued to the E-RES producers by the TSOs shall be conducted in a competitive system, on the market of bilateral contracts and/or on the centralized green certificates market, only between the producers of E-RES, as sellers, and the suppliers of final consumers of electricity, as buyers, and is not subject to the trading of the related electricity.

In 2021, green certificates' trading was carried out on the green certificates market (PCV), which is a competitive market, separate from the electricity market and which has the following components:

a) The market for bilateral green certificates contracts (PCBCV), which includes:
- The anonymous centralized spot market for green certificates (PCTCV),
- The market for bilateral green certificates contracts negotiated directly (PCBV-ND);

b) The anonymous centralized spot market for green certificates (PCSCV),

c) The centralized market for renewable electricity supported by green certificates (PCE-ESRE-CV);

The green certificates were transferred throughout 2021 on the basis of the instruments and competitive mechanisms specific to the green certificates' markets, in which the price-scale transactions are concluded, detailed as follows:

- The market for bilateral green certificates contracts negotiated directly (PCBCV),
  - The anonymous centralized spot market for green certificates (PCTCV),
  - The market for bilateral green certificates contracts negotiated directly (PCBCV-ND),
- The market for bilateral green certificates contracts concluded on the OPCOM platform before the entry into force of GEO 24/2017(PCCBCV);
- Bilateral sales/purchase contracts directly negotiated before the entry into force of GEO no. 57/2013(CB ND before GEO 57/2013);
- Bilateral sales/purchase contracts directly negotiated concluded in accordance with the provisions of Law no. 23/2014 (CB ND Pi<3 MW).

○ The anonymous centralized spot market for green certificates (PCSCV);

○ The centralized market for renewable electricity supported by green certificates (PCE-ESRE-CV).

The status of green certificates transferred throughout 2021 is presented in the table below:

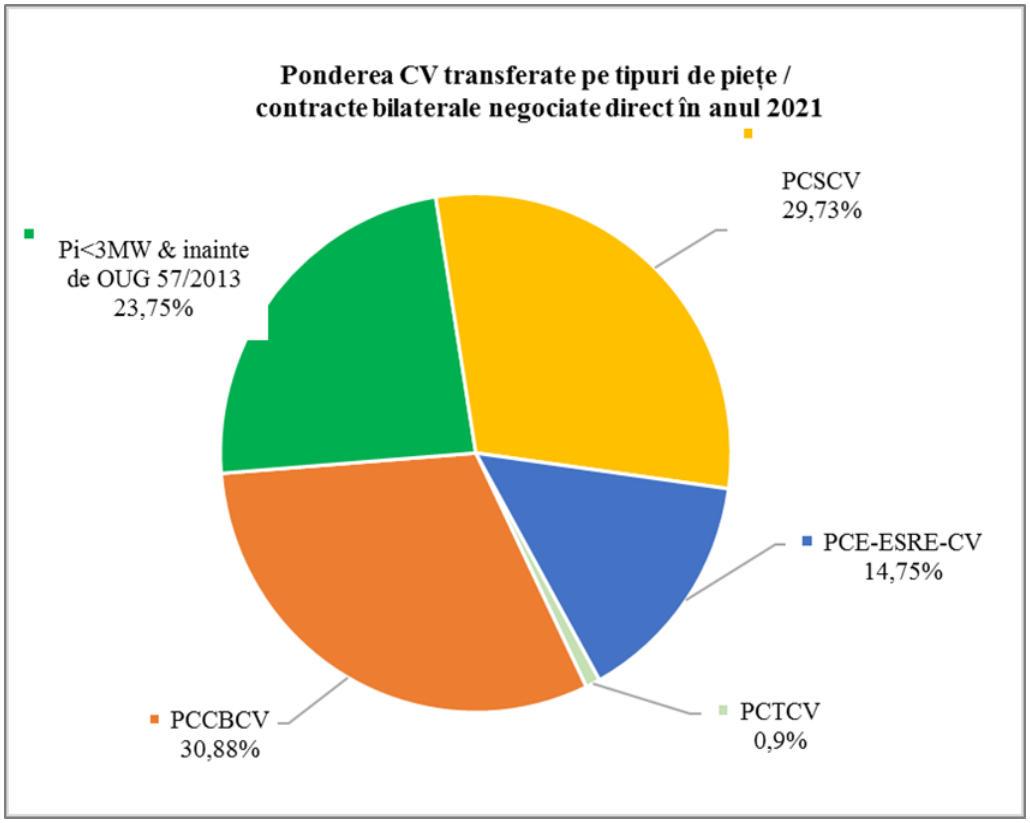
Table no. 3

Tip piață/contract			CV transferate	
			Număr	%
PCBCV	PCTCV		165900	0,90%
	PCBCV ND	PCCBCV	5666950	30,88%
		Pi<3MW & inainte de OUG 57/2013	4357811	23,75%
PCSCV			5455195	29,73%
PCE-ESRE-CV			2706133	14,75%
Total 2021			**18351989**	**100,00%**

Type or market/contract, Transferred green certificates, number, Total for 2021

According to these data, the share of green certificates transferred per types of directly negotiated bilateral markets/contracts is shown in Figure 7:

Figure no. 7



Weighting of transferred green certificates per types of markets/directly negotiated bilateral contracts in 2021, Pi<3MW and before GEO 57/2013

The weighted average price at which green certificate transfers were conducted in 2021 per type of markets was:

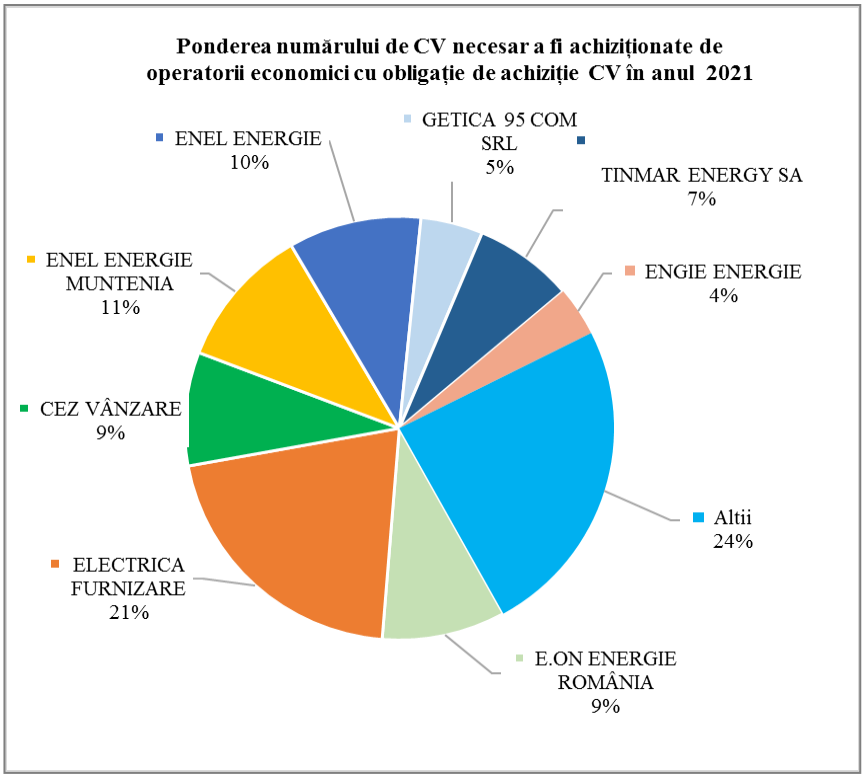
- PCBCV 142.1619 RON/green certificate[8]
- PCBCV-ND 142.1878 RON/green certificate[9]
- PCTCV 142.2107 RON/green certificate[10]
- PCSCV 142.2107/green certificate[11]

The annual obligation to purchase green certificates for 2021 was applicable for 123 economic operators, who had to purchase a number of 19 697 250 green certificates.

Figure 8 shows the share of the number of green certificates required to be purchased by the main economic operators with a green certificate purchase obligation, out of the total number of green certificates related to the annual green certificates' purchase obligation for 2021.

[8] The value results as a weighted average of the RON price of green certificates on the PCBCV in 2021, from the annual report of OPCOM for 2021
[9] The value results as a weighted average of the RON price of green certificates on the PCBCV-ND in 2021, from the OPCOM annual report for 2021
[10] The value is taken from the 2021 OPCOM annual report
[11] value is taken from the 2021 OPCOM annual report

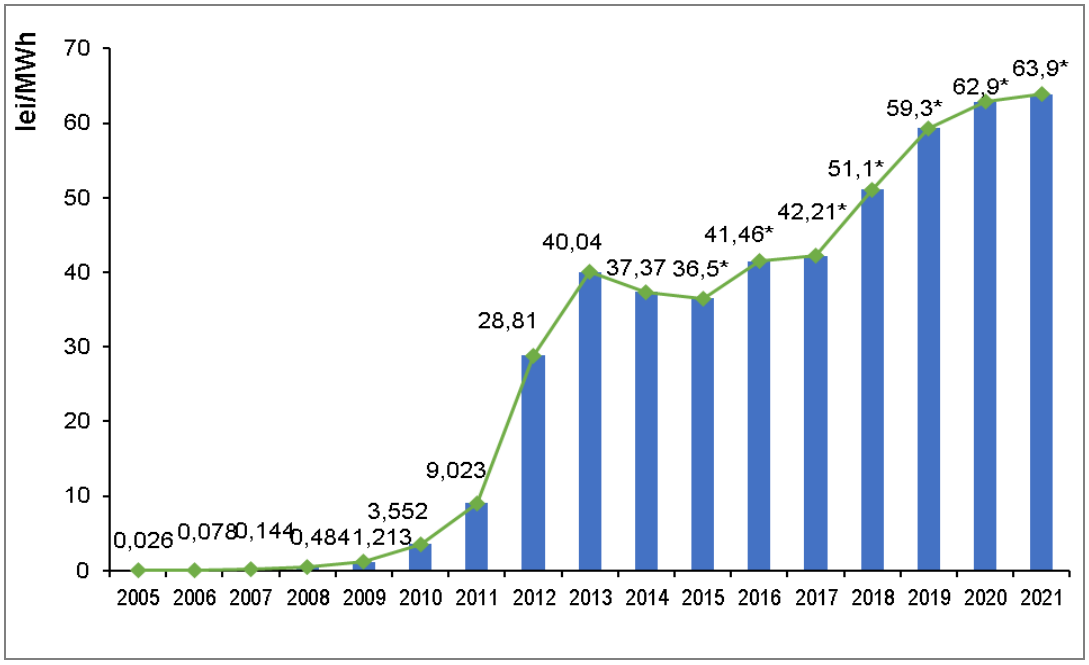
Figure no. 8



Weighting of the number of green certificates that need to be purchased by economic operators subject to the green certificates' purchase obligation in 2021

By applying the mandatory quota for the purchase of green certificates, the average impact of green certificates in the bill of final consumers of electricity for 2021 was 63.9 RON/MWh (13 EUR/MWh), its development in the period 2005÷2021 is presented in Figure 9:

Figure no. 9



RON/MWh

Note:* *2015 - the impact takes into account an exempted consumption in 2015 of approx. 3.45 TWh*

2016 - the impact takes into account an exempted consumption in 2016 of approx. 6.85 TWh

2017 - the impact takes into account an exempted consumption in 2017 of approx. 7.208 TWh

2018 - the impact takes into account an exempted consumption in 2018 of approx. 7.496 TWh

2019 - the impact takes into account an exempted consumption in 2019 of approx. 7.598 TWh

2020 - the impact takes into account an exempted consumption in 2020 of approx. 7.684 TWh

2016 - the impact takes into account an exempted consumption in 2016 of approx. 8.934 TWh

The degree of achievement of the national target regarding the share of E-RES in gross final consumption of electricity

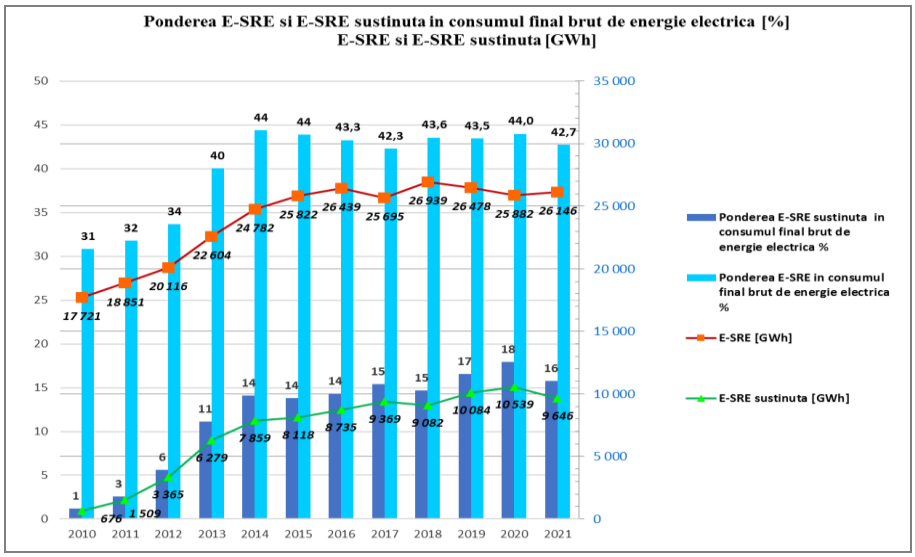
In the context of the provision of Article 20 paragraph (2) of Law no. 220/2008, ANRE calculated, on the basis of the results related to 2021, the share of electricity produced from renewable sources in the gross final consumption of electricity, for the previous year, as follows:

The electricity generated in 2021 in the generation units of E-RES was 26 728 GWh (normalized value), of which 9 646 GWh benefited from the green certificates' promotion system, the remaining 17 082 GWh has been generated both in hydroelectric power plants with installed capacity exceeding 10 MW, which do not benefit from the green certificates support scheme, as well as in renewable power plants belonging to prosumers, and led to a share of E-RES in the total gross final consumption of electricity of Romania of 42.7%.

Also, the amount of electricity of 9 646 GWh that benefited from the green certificates promotion system led to a 16% share in the total gross final consumption of electricity in Romania.

The development of the share of electricity generated from renewable sources in the gross final consumption of electricity of Romania in the period 2005÷2021 is presented in the following figure:

Figure no. 10



Weighting of E-RES and E-RES supported in the gross final consumption of electricity, E-RES and supported E-RES, Weighting of E-RES supported in the gross final consumption of electricity, Weighting of E-RES in the gross final consumption of electricity, Supported E-RES

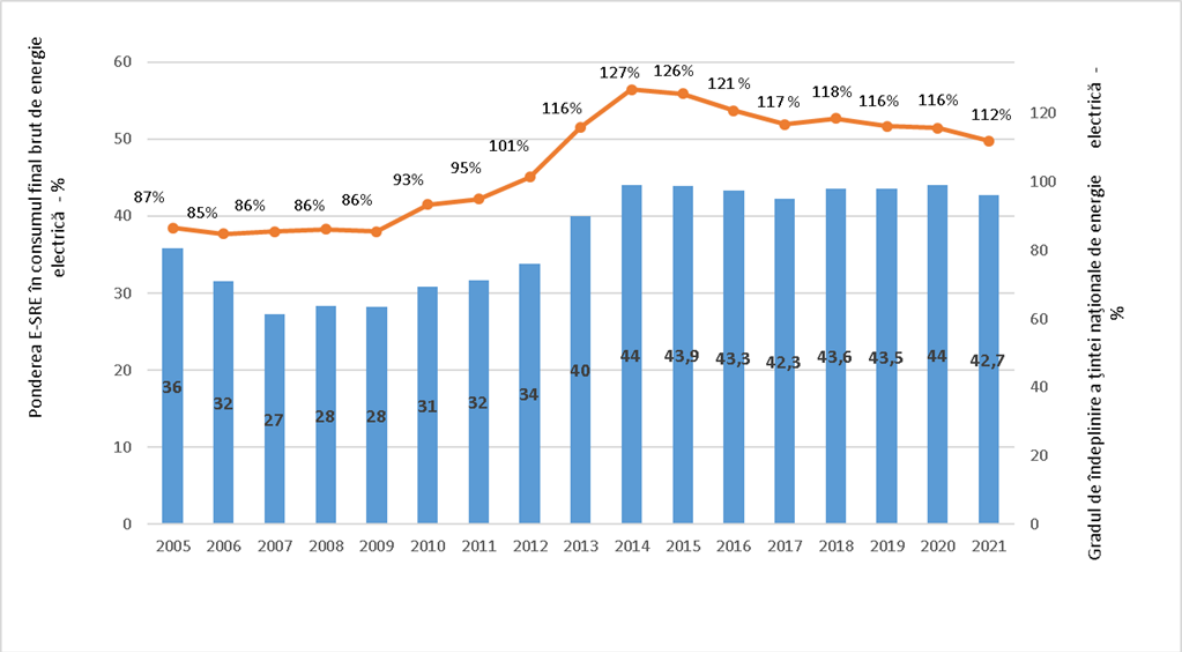
Note: *1) In the calculations on the determination of the share of E-RES in gross final consumption of electricity, normalized values of electricity generation from hydroelectric power plants and wind power plants were used for the period 2010 ÷ 2020, in accordance with the provisions of Directive 2009/28/EC;*
2) The share of E-RES in the gross final consumption of electricity in 2021 was 42.7%, using normalized values of electricity generated from hydroelectric and wind power plants, respectively

Regarding the degree of achievement of the national target regarding the share of electricity generated from renewable energy sources in the gross final consumption of electricity, in Figure 11, an evolution is presented for the period 2005÷2010, by comparison of the value achieved in the year of analysis with that of the legally established national target, because, subsequently, starting with 2010, the degree of achievement of the targets was assessed by comparing the achieved share of electricity generated from renewable sources in Romania's gross final consumption of electricity, with the annual values resulting by interpolation between the legally established national targets for the period 2010 ÷ 2020.

For 2021, the level of achievement of the national target on the share of electricity generated from renewable energy sources in the gross final consumption of electricity was 112%.

The figure below shows the development of the degree of achievement of the national target regarding the share of E-RES in the gross final consumption of electricity in the period 2005÷2021:

Figure no. 11



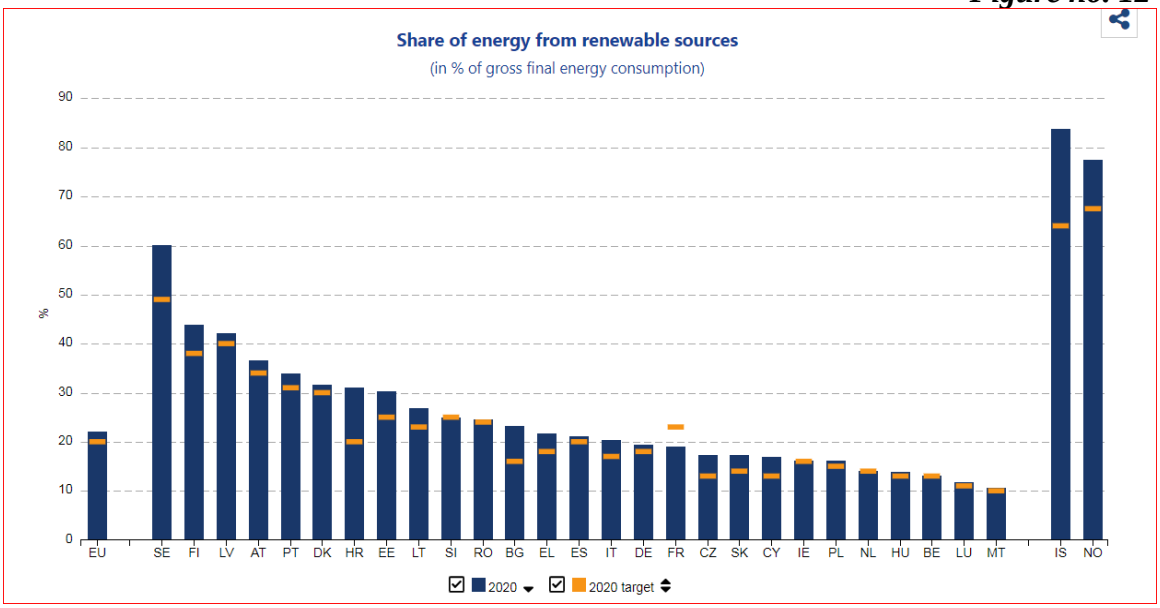
Weighting of E-RES in the gross consumption of electricity, Degree of fulfilment of the national electricity target

Considering the indicative trajectory of the share of electricity produced from renewable sources in gross final consumption of electricity, 2021 – 2030 considered in the PNIESC, namely the value of 43.37 % achieved in 2020, according to the data reported by Romania to Eurostat (https://ec.europa.eu/eurostat/web/energy/data/shares) and taking into

account a linear annual growth for the period 2020÷2025, the degree of achievement of the national target regarding the share of electricity generated from renewable energy sources in the gross final consumption of electricity for 2021 reaches the value of 97%.

The target for Romania for promoting the production of E-RES is 24% for 2020, regarding the share of energy from renewable energy sources in the gross final consumption of energy. This target for 2020 was 24.47%, according to official European data published by Eurostat:

Figure no. 12



Data taken from Eurostat, February 2022

In accordance with the provisions of the *Methodology for monitoring the system of promoting the generation of electricity from renewable energy sources*, ANRE analysed the status of costs and revenues of producers of electricity from renewable sources benefiting from the green certificates' promotion system, based on the data transmitted by certified producers.

The data transmitted by the certified producers have been processed by applying the mathematical model submitted for the notification of the modification of the system for the promotion of the production of electricity through green certificates, authorized by the European Commission by means of Decision EC no. C(2016) 8865.

The system of promotion through green certificates established by means of *Law no. 220/2008* was applied to producers for electricity produced from renewable sources, based on the accreditation decision issued by ANRE, for the commissioning, namely the group/power plant reengineering carried out until December 31st, 2016.

From the cost-benefit analysis, with an update carried out for the 2021 analysis year at aggregate level for each E-RES technology category, taking into account the indicators resulting from cost averaging and in accordance with the capacities commissioned by the end of 2016[12], no risk of overcompensation was identified.

[12] *The system of promotion through green certificates established by Law no. 220/2008 was applied to producers for electricity generated from renewable sources, including for electricity generated during the trial period, based on the certification decision issued by ANRE, for commissioning, namely, group/power plant reengineering, carried out until 31.12.2016*

In the report on the overcompensation analysis of the green certificate scheme for electricity from renewable energy sources for 2021, values of the comparable internal rate of return or below the reference value of EC Decision C(2015) 2886 are noted. The report on the overcompensation analysis of the system of promotion through green certificates of electricity from renewable energy sources for 2021 was published on the ANRE website.

The estimated budget of the green certificate support scheme provided for in Decision EC no. 4938/2011, represents the accumulation of the aid granted over 15 years for new generation capacities entered in the green certificates' support scheme at the level of each year, from 2011 to 2016, and is shown in the table below:

Table no. 4

Year	2011	2012	2013	2014	2015	2016	Total
Estimated budget Decision EC no. 4938/2011 **[million RON]**	23305*	13902	14504	10666	9322	9015	80713

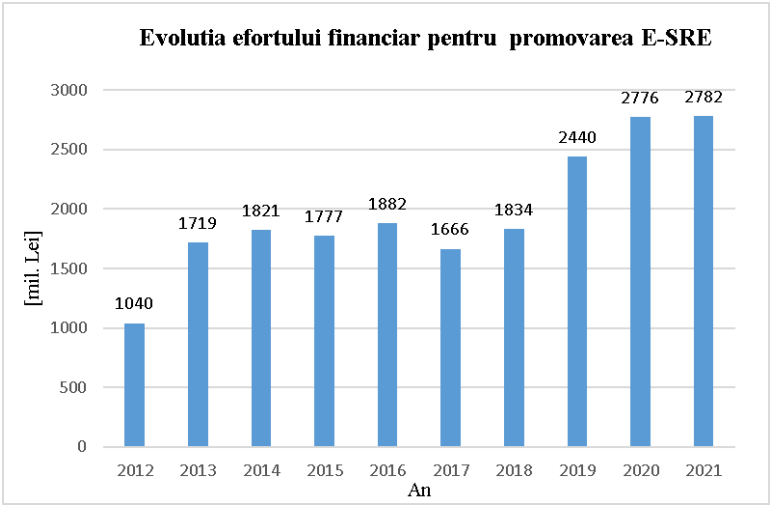
** The calculations for 2011 were conducted in view of the application of the promotion scheme as of January 1st, 2011.*

The expected levels for the estimated annual budgets represent the 15-year projection of the budget for the certified installed plants in one year of analysis and comprise the total value of the green certificates issued for the entire certification period.

Subsequently, the estimated budget of the green certificate support scheme was revised by means of Decision EC no. 2886/2015, the amendments introduced aim at reducing the support per MWh and, thus, reduce the budget from EUR 19.5 billion (initial estimate) to EUR 17.4 billion.

The development of the financial effort for the promotion of E-RES is expressed by the amount of state aid reported by the producers of E-RES from the sale of green certificates, in the period 2012÷2020:

Figure no. 13



Development of the financial effort for E-RES promotion

1.1.3.2. Monitoring of the system for the promotion of electricity generated in renewable power plants with installed electricity of no more than 100 kW belonging to prosumers

The 2021 monitoring of prosumers shall take into account the data and information submitted by 9 distribution system operators reporting information on prosumers connected to the power grid in accordance with the template set out in Annex 8[13], Annex 8.1 and[14] **the data and information transmitted by electricity suppliers relating to sales and purchase contracts concluded with prosumers who own power plants for the generation of electricity from renewable energy sources, according to the template set out in Annex 8.2[15]** of the *Methodology for monitoring the system for promoting the generation of electricity from renewable energy sources*.

Throughout 2021, the reporting data received from distribution operators related to prosumers connected to distribution networks of distribution operators were collected on a monthly basis, with the help of the IT application accessible directly from the ANRE website (ANRE Portal).

The monitoring of the system for the promotion of electricity generated in renewable power plants with installed electricity of no more than 100 kW belonging to prosumers in 2021 shows the following:

The number of holders of electricity generation units produced in renewable power plants with installed electricity of no more than 100 kW belonging to prosumers, broken down per natural persons and legal entities as of 31.12.2021 is shown in Table 9.

Table no. 9

Nr. crt.	Operator de distributie	Numar prosumatori persoane fizice (PF) cu Pi<100kW	Numar prosumatori persoane juridice (PJ) cu Pi<100kW	Total
1	DELGAZ GRID	1703	66	1769
2	DISTRIBUTIE ENERGIE OLTENIA	2646	76	2722
3	E - DISTRIBUTIE MUNTENIA SA	1650	37	1687
4	E - DISTRIBUTIE BANAT	1433	68	1500
5	E-DISTRIBUTIE DOBROGEA	764	39	802
6	OMV PETROM	2	1	3
7	SDEE MUNTENIA NORD	1436	39	1475
8	SDEE TRANSILVANIA NORD SA	1417	83	1499
9	SDEE TRANSILVANIA SUD	2160	73	2232
Total an 2021		**13109**	**478**	**13582***

No., Distribution operator, Number of prosumers – private persons (PF) with Pi<100kW, Number of prosumers – legal entities (PJ) with Pi<100kW, Total, 2021 year total

Note: The total number of prosumers was calculated taking into account the unique name of the prosumer connected to the distribution operator's own network*

The installed power in power generation units produced in power plants from renewable sources with installed electricity of no more than 100 kW belonging to prosumers, broken down per natural persons and legal entities as of 31.12.2021 is shown in Table 10.

Table no. 10

[13] *Annex no. 8* of the Methodology for monitoring the system for promoting the generation of electricity from renewable energy sources, approved by means of ANRE President Order no. 195/2019
[14] *Annex no. 8.1* of the Methodology for monitoring the system for promoting the generation of electricity from renewable energy sources, approved by means of ANRE President Order no. 52/2021
[15] *Annex no. 8.2* of the Methodology for monitoring the system for promoting the generation of electricity from renewable energy sources, approved by means of ANRE President Order no. 52/2021

Nr. crt.	Operator de distributie	Total Putere instalată persoane fizice (kW), Pi<100kW	Total Putere instalată persoane juridice (kW), Pi<100 kW	Total Putere instalată (kW)
1	DELGAZ GRID	7 424	1 270	8694
2	DISTRIBUTIE ENERGIE OLTENIA	10 616	1 707	12323
3	E - DISTRIBUTIE MUNTENIA SA	6 834	1 969	8803
4	E - DISTRIBUTIE BANAT	6 523	2 659	9182
5	E-DISTRIBUTIE DOBROGEA	3 038	1 475	4514
6	OMV PETROM	8	32	40
7	SDEE MUNTENIA NORD	5 733	1 052	6785
8	SDEE TRANSILVANIA NORD SA	6 258	1 729	7987
9	SDEE TRANSILVANIA SUD	9 064	1 743	10808
Total an 2021		**55499**	**13637**	**69135**

No., Distribution operator, Number of prosumers – private persons (PF) with Pi<100kW, Number of prosumers – legal entities (PJ) with Pi<100kW, Total, 2021 year total

The quantity of electricity generated and delivered by power generation units by power generation plants produced in renewable power plants with installed power of no more than 100 kW belonging to prosumers, broken down per natural persons and legal entities as of 31.12.2021 is shown in Table 11.

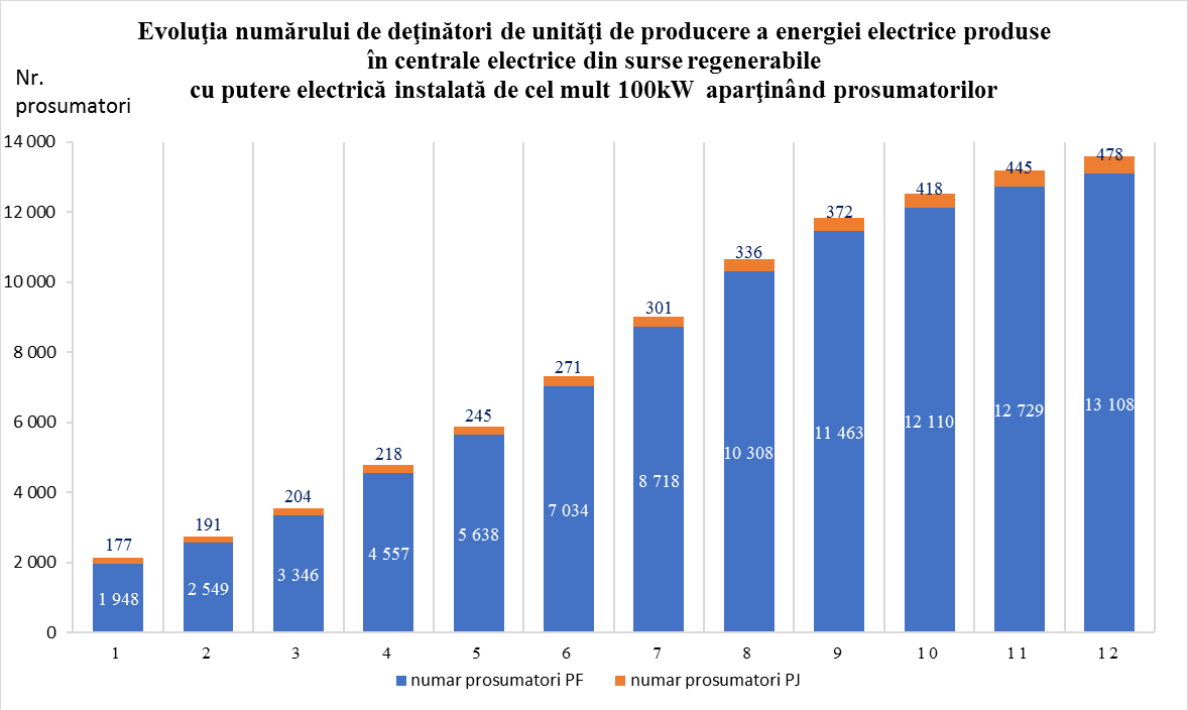
Table no. 11

Nr. crt.	Operator de distributie	Total Energie electrică produsă şi livrată, persoane fizice (kWh), Pi<100kW	Total Energie electrică produsă şi livrată persoane juridice (kWh), Pi<100 kW	Total Energie electrică produsă şi livrată (kWh)
1	DELGAZ GRID	2 036 007	204 859	2 240 866
2	DISTRIBUTIE ENERGIE OLTENIA	3 422 797	3 210 158	6 632 955
3	E - DISTRIBUTIE MUNTENIA SA	2 019 118	232 369	2 251 487
4	E - DISTRIBUTIE BANAT	2 576 184	625 795	3 201 979
5	E-DISTRIBUTIE DOBROGEA	1 114 327	330 163	1 444 490
6	OMV PETROM	4 499	3 683	8 182
7	SDEE MUNTENIA NORD	2 093 280	206 826	2 300 106
8	SDEE TRANSILVANIA NORD SA	2 108 246	501 109	2 609 355
9	SDEE TRANSILVANIA SUD	3 685 109	447 671	4 132 780
Total an 2021		**19059566**	**5762633**	**24822200**

No., Distribution operator, Total electricity generated and delivered, private persons, Total electricity generated and delivered, legal entities, Total electricity generated and delivered, 2021 year total

Figure 14 below shows the monthly development of the number of holders of electricity generation units produced in renewable power plants with installed power of no more than 100 kW belonging to prosumers connected to the distribution system's own network broken down per natural persons and legal entities in 2021.

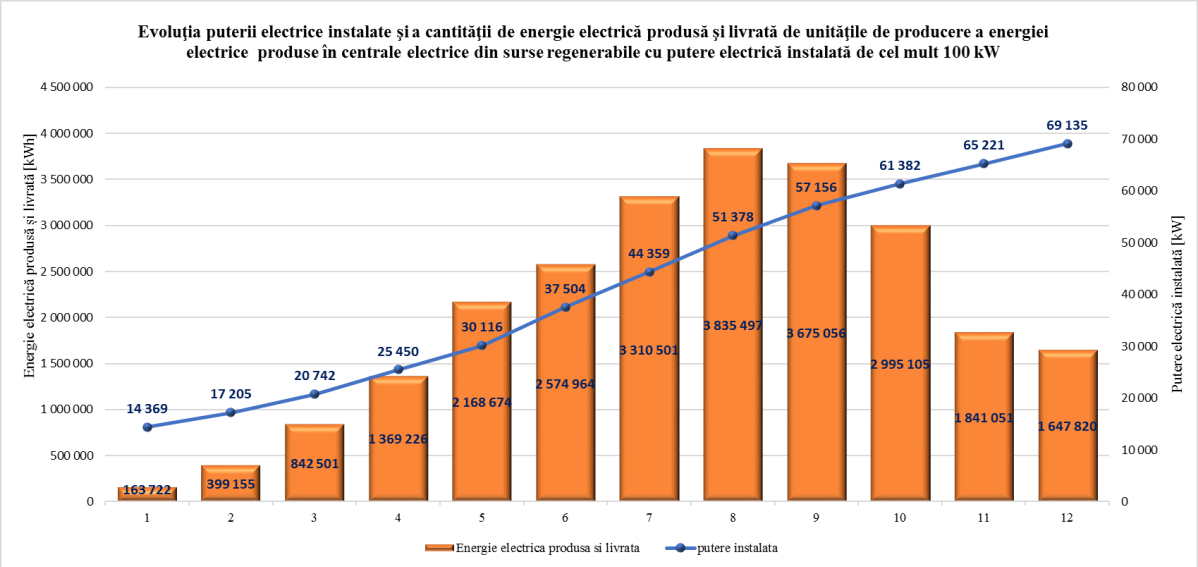
Figure no. 14



Development of the number of owners of energy generation units in electricity plants from renewable sources with an installed electricity capacity of no more than 100kW belonging to prosumers, number of private individual prosumers (PF), number of legal entity prosumers (PJ)

The development of the installed electricity and the amount of electricity generated and delivered by the power generation units by the power generation installations produced in renewable power plants with installed power of no more than 100 kW belonging to prosumers is shown in the figure below:

Figure no. 15



Development of installed electricity and electricity quantity generated and delivered by electricity generation units in electricity plants from renewable sources with an installed electricity capacity of no more than 100kW

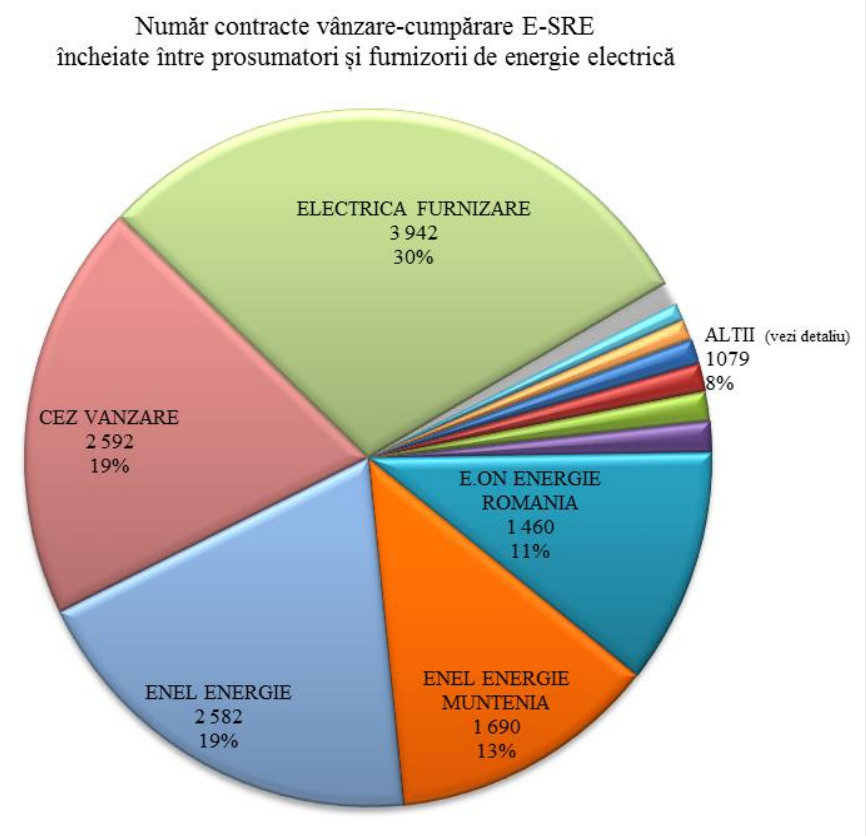
The analysis of the presented data shows a linear increase in what concerns the installed power of the electricity generation units produced in renewable power plants with installed power of no more than 100 kW belonging to prosumers connected to the distribution system's own network from the total installed power value of 14 369 kW in January 2021 to the value of 69 135 kW at the end of December.

Regarding the amount of electricity generated and delivered by power generation units by electricity generation installations produced in renewable power plants with installed power of no more than 100 kW belonging to prosumers, cumulative values of over 2 000 000 kWh for the period May – October and values below 2 000 000 kWh for January – April 2021, November and December 2021, respectively, are revealed.

Also, by means of centralizing the data and information transmitted by electricity suppliers regarding the sale-purchase contracts concluded with prosumers who own power plants for the generation of electricity from renewable energy sources , it is noted that, up to 31.12.2021, a number of 27 energy suppliers has concluded a number of 13345 contracts for the sale-purchase of electricity with prosumers with installed power less than 100 kW per consumption site.

Figure 16 shows that 92% of the 13 345 contracts for the sale and purchase of electricity concluded by suppliers were concluded by 5 suppliers of electricity of last resort, the remaining 8% of the contracts were concluded by 22 electricity suppliers.

Figure no. 16

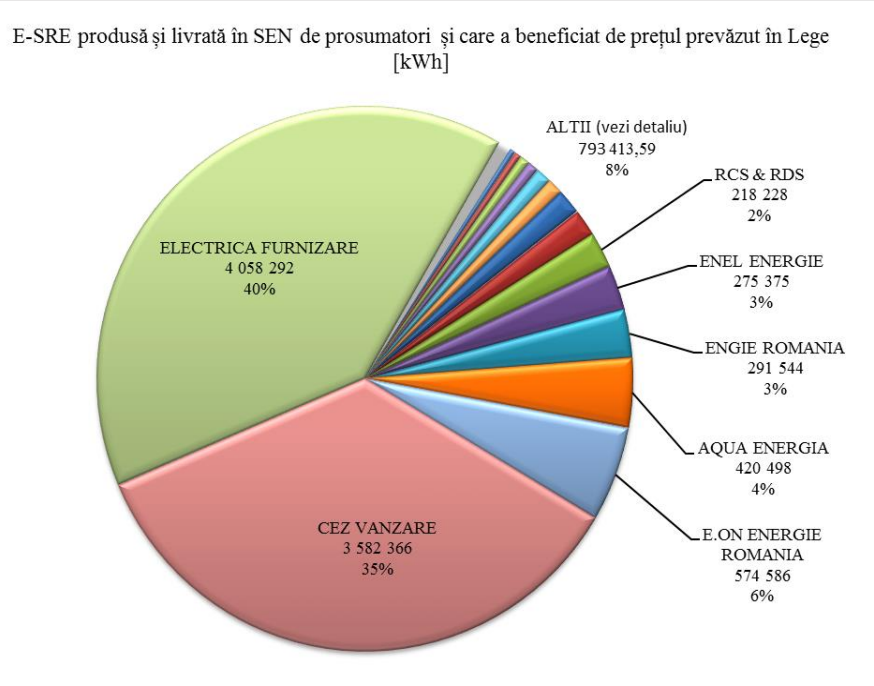


Number of sale-purchase contracts for E-RES concluded between prosumers and electricity suppliers, OTHERS (see details)

In the same proportion of 92 %, the amount of electricity generated and delivered in the national electricity system and which benefited from the price provided for in Law no.

220/2008 was taken over by 4 suppliers of last resort and 3 suppliers active in the retail market, the remaining 8% was taken over by 20 suppliers.

Figure no. 17



E-RES generated and delivered in the SEN by prosumers that benefited from the price provided for by Law, OTHERS (see details)

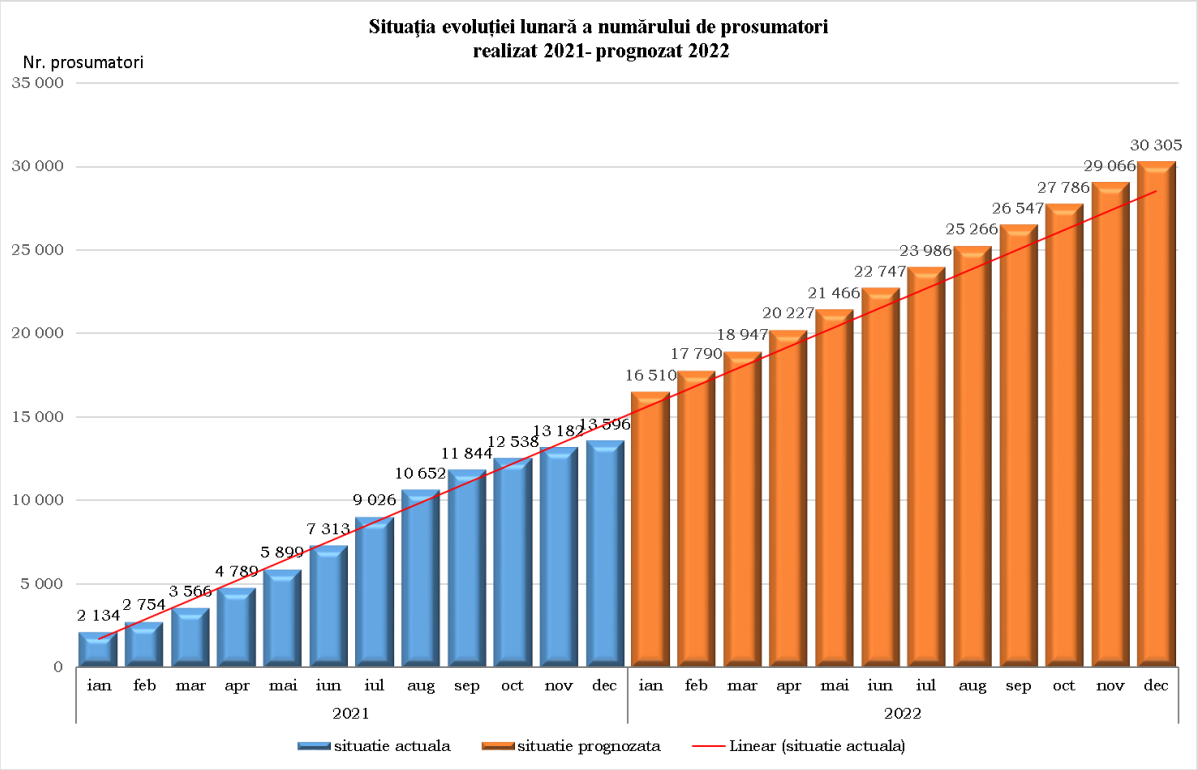
By establishing the system of promotion of electricity generated in power plants from renewable sources with installed power of no more than 100 kW belonging to prosumers, in 2021, a quantity of electricity of approx. 25 GWh benefited from the price of 0.19656 RON/kWh provided for in *Law no. 220/2008.*

From the analysis of data on prosumers, it is found that, throughout 2021, the dynamics of the connection of new prosumers experienced an important increase, in this respect, ANRE estimates an increase in the number of prosumers at the end of 2022 toward the estimated values of about 30 000 prosumers.

Given these developments, congestion or lack of capacity for connecting new renewable capacities in the electricity networks of distribution operators is expected to occur, based on a similar trend in terms of connecting renewables in the period 2012÷2016 in relation to transmission networks.

The emergence and formation of micro grids and local energy markets is also expected, with the emergence of aggregators and energy communities.

Figure no. 18



Status of the monthly development of the number of prosumers achieved 2021 – estimated 2022, No. of prosumers, current status, estimated status, linear (current status)

In view of the provisions of Article 73 ^ 1 paragraph (10) of *Law no. 123/2012*[16], introduced by means of *GEO no. 143/2021*[17], the results regarding the monitoring of prosumers' activity for 2021 are included in a report[18] that is published on the ANRE website.

1.2. Origin guarantees

In what concerns compliance with the requirements regarding the certification of the origin of E-RES of the European Union, the Regulation on the certification of the origin of electricity generated from renewable energy sources has been promoted, on the basis of which ANRE issued the **Procedure for supervising the issuance of guarantees of origin for electricity generated from renewable energy sources, approved by means of ANRE Order no. 23/2004**. As a result, ANRE established the Single register of guarantees of origin and, during 2005 – 2010, on a half-yearly basis, issued guarantees of origin for electricity generated from renewable energy sources, constantly updating the data in this register.

Following the amendment of the European legislation in this field, by promoting **Directive 2009/28/EC**[19], it was necessary to reconsider the rules on the certification of the

[16] *Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions*
[17] *Government Emergency Ordinance no. 143/2021 amending and supplementing the Law on electricity and natural gas no. 123/2012, as well as amending certain normative acts.*
[18] *ANRE has published the first report on the monitoring of prosumers' activity for 2021*
[19] *Directive 2009/28/EC of the European Parliament and of the Council of April 23rd, 2009 on the promotion of the use of energy from renewable sources, amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC*

origin of electricity generated from renewable energy sources, and a subsequent Regulation was approved. [20]

The E-RES origin certification scheme aims to increase transparency toward the customer by differentiating between electricity from renewable energy sources and electricity from conventional sources and is materialized by the granting of guarantees of origin to E-RES producers.

The Regulation establishes the framework for the organization and functioning of the system of guarantees of origin for the generation of electricity from renewable sources, in order to prove that electricity or a share thereof, delivered to a final consumer by the latter's supplier, is produced from renewable energy sources.

Guarantees of origin issued under this Regulation shall be used by the electricity supplier, at the request of a final consumer, to prove the correctness of the information contained in the electricity label.

In order to implement the provisions of **GD no. 1232/2011**, ***ANRE implemented the web application for issuing and tracking guarantees of origin, on a secure website***, developed specifically for this purpose. With the development of the application, starting in February 2013, a new Single register of guarantees of origin, in electronic format, has become operational, containing information on guarantees of origin issued, transferred or withdrawn.

At the same time, ANRE monitors the status of guarantees of origin for electricity generated from renewable energy sources, the thusly obtained results being included in an annual report.

The following figure shows the status of guarantees of origin pertaining to the producers of E-RES in the period 2016 ÷ 2021, as follows:

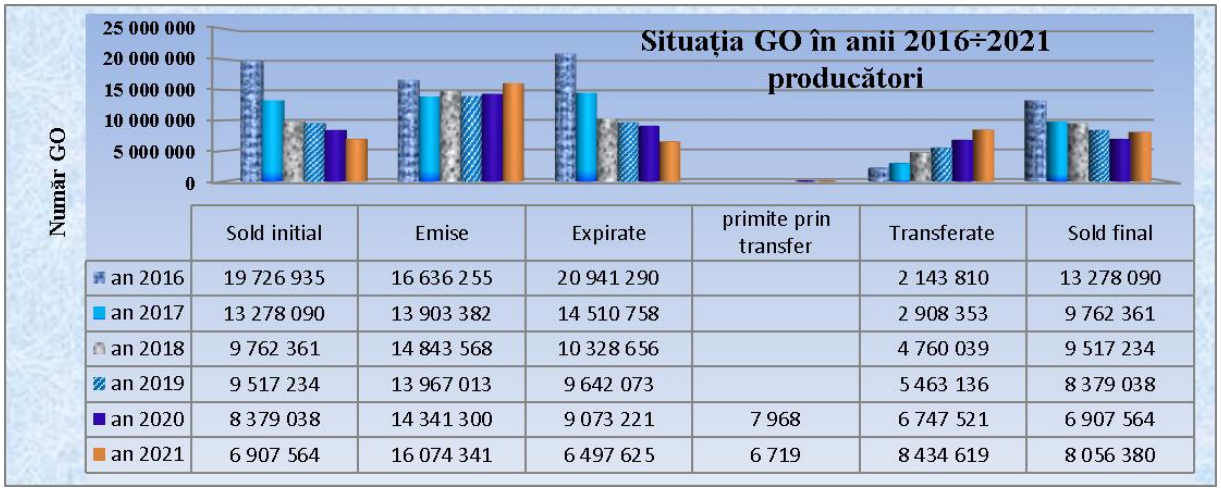
- issued to E-RES producers;
- transferred by E-RES producers to electricity suppliers/E-RES producers;
- expired in what concerns E-RES producers.

Compared to 2016 ÷ 2020, in 2021 there is an improvement in what concerns the transfer operations of guarantees of origin, thus, given the increase of 25% compared to the previous year, the upward trend of the last years is maintained, while the number of guarantees of origin expired in the producers' portfolio, with a decrease of 28.39% compared to the previous year, accentuates the downward trend of the last years

There is an improvement in what concerns the awareness of the E-RES producers of requesting the issuance of origin guarantees, in relation to the transfer of origin guarantees, in the sense that they are requested to the extent to which they are to be transferred.

Figure no. 19

[20] *Regulation on issuance and monitoring of guarantees of origin for electricity generated from renewable energy sources, approved by means of GD no. 1232/2011*



	Sold initial	Emise	Expirate	primite prin transfer	Transferate	Sold final
an 2016	19 726 935	16 636 255	20 941 290		2 143 810	13 278 090
an 2017	13 278 090	13 903 382	14 510 758		2 908 353	9 762 361
an 2018	9 762 361	14 843 568	10 328 656		4 760 039	9 517 234
an 2019	9 517 234	13 967 013	9 642 073		5 463 136	8 379 038
an 2020	8 379 038	14 341 300	9 073 221	7 968	6 747 521	6 907 564
an 2021	6 907 564	16 074 341	6 497 625	6 719	8 434 619	8 056 380

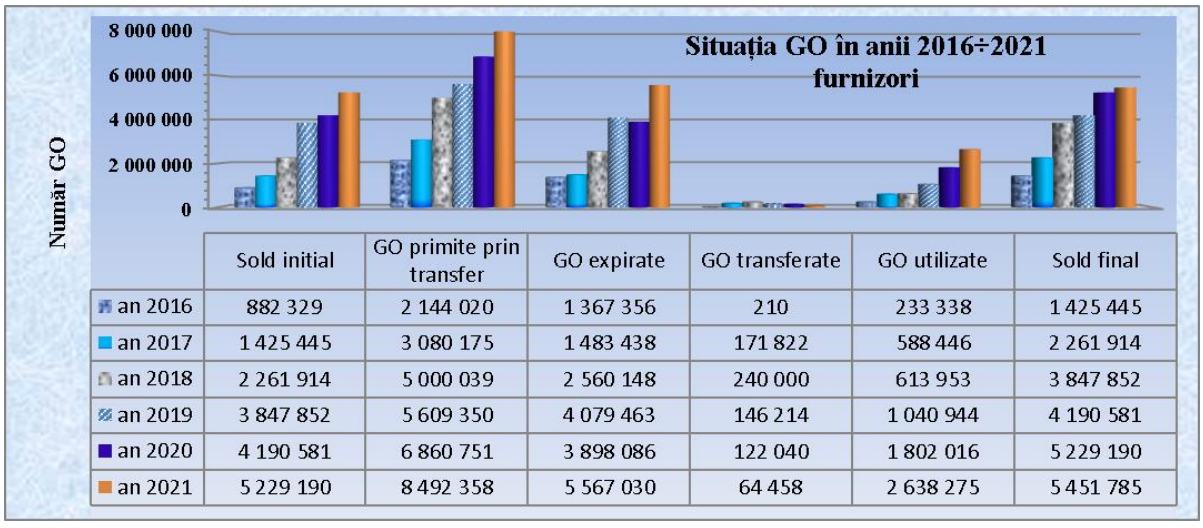
GO status in 2016-2021 – Producers, GO number, Initial balance, Issued, Expired, received via transfer, Transferred, Final balance

The following figure shows the status of guarantees of origin pertaining to electricity suppliers in the period 2016 ÷ 2021, as follows:

- received via transfer by electricity suppliers;
- used by electricity suppliers to final consumers;
- transferred by electricity suppliers to another electricity supplier;
- expired in what concerns suppliers.

In 2021, there is a significant increase of 46.4%, compared to the previous year, in what concerns the number of guarantees of origin used in relation to final customers. There is also a 23.78% increase in guarantees of origin received by electricity suppliers through transfer and an increase in the number of expired guarantees of origin related to electricity suppliers, of 42.81%, when compared to the previous year.

Figure no. 20



	Sold initial	GO primite prin transfer	GO expirate	GO transferate	GO utilizate	Sold final
an 2016	882 329	2 144 020	1 367 356	210	233 338	1 425 445
an 2017	1 425 445	3 080 175	1 483 438	171 822	588 446	2 261 914
an 2018	2 261 914	5 000 039	2 560 148	240 000	613 953	3 847 852
an 2019	3 847 852	5 609 350	4 079 463	146 214	1 040 944	4 190 581
an 2020	4 190 581	6 860 751	3 898 086	122 040	1 802 016	5 229 190
an 2021	5 229 190	8 492 358	5 567 030	64 458	2 638 275	5 451 785

GO status in 2016-2021 – Suppliers, GO number, Initial balance, Issued, Expired, received via transfer, Transferred, Final balance

Starting with 2013, reports on monitoring guarantees of origin for electricity generated from renewable energy sources and delivered to electricity networks can be found on ANRE's website.

1.3. Billing of green certificates to final consumers

The activities of purchasing/trading/billing and regulating green certificates for final consumers are carried out by the electricity suppliers based on the specific provisions of *Law no. 220/2008*, as well as in accordance with the regulations of ANRE currently in force.

In accordance with the provisions of Art. 8 par. (6) and (6^1) of *Law no. 220*/2008, the *Procedure* establishing the following aspects has been developed [21]:

a) how to bill green certificates to final consumers;

b) how to regularize green certificates to final consumers;

c) *reporting obligations regarding green certificates' billing/regularization related to electricity billed/supplied to final consumers by electricity suppliers, distribution system operators, other than transferor distribution system operators, who resell electricity purchased from one or more electricity suppliers to final electricity consumers connected to their electricity distribution networks and by electricity producers supplying electricity to consumers connected via direct lines to the power plants they own.*

Electricity suppliers have the obligation, in the electricity bills issued to the final consumers of electricity, to bill the green certificates related to consumed electricity, separately from the tariffs / prices for electricity, in accordance with the provisions of Article 8 paragraph (4) of *Law no. 220/2008*. As a result, the value of the green certificates is billed to final consumers by the electricity supplier for the electricity billed to them within the billing period, distinctly highlighted in the electricity bill thus issued, the billing period of the green certificates' value being the same as the electricity billing period.

According to the provisions of Article 15 of the *Procedure*, electricity suppliers shall transmit to ANRE the following data:

a) *by March 31st of each year, data on the monthly billing of the green certificate value for the previous year relating to billed electricity, by filling in the template provided for in Annex 1 for the economic operators referred to in Article 2(1)(a) and (b), namely the template set out in Annex 2 for the economic operators referred to in Article 2 (1) (c) of the Procedure. In the event that bills are issued for the regularisation of electricity initially billed for a billing interval, the data from the electricity regularization bills shall be used when filling in the template set out in Annex no. 1 or no. 2, as the case may be.*

b) by September 30th each year, data on the annual adjustment of the green certificate value for the previous year, by completing the template provided for in Annex 3 for the economic operators referred to in Article 2 (1) (a) and (b), namely of the template set out in Annex 4 for economic operators referred to in Article 2 (1) (c).

In accordance with the provisions of Article 6 of the *Procedure*, the electricity supplier shall bill the value of the green certificates to the final consumers as a product between the following:

- the amount of electricity billed in each billing interval of 2021,
- the mandatory annual quota for the purchase of green certificates established at the value of 0.449792 green certificates/MWh by means of ANRE Order no. 14/202222.

[21] *The procedure for billing green certificates, approved by means of Order of the President of ANRE no. 187 of November 7th, 2018, published in the Official Journal no. 953 of 12.11.2018*

[22] *Order of the President of ANRE no. 14/23.02.2022 regarding the establishment of the mandatory quota for the purchase of green certificates for the year 2021, published in the Official Journal no. 186 of 24.02.2022*

- Weighted average price of green certificates traded on the anonymous centralized spot green certificates' market of 142.2107 RON/green certificate, established and published by the OPCV23 on its website: https://www.opcom.ro/anunturi_stiri/anunturi_pcv.php?lang=ro&id_piata=4, on 05.01.2021.

The unit price of the green certificates relating to the quantity of electricity consumed in the billing interval in 2021 shall be calculated in accordance with the provisions of Article 9 (4) (b) of the *Procedure*, as a product of the estimated mandatory annual quota of green certificates' acquisition of 0.449792 green certificates/MWh and the weighted average price of green certificates of 142.2107 RON/green certificate. Thus, the unit price of green certificates in 2021 amounts to 63.965235 RON/MWh.

In order to analyse the monthly green certificates' billing templates submitted by electricity suppliers, it was considered that the following aspects should be observed when billing green certificates in 2021:

- Use of the estimated mandatory annual quota24 for the purchase of green certificates at the value of 0.4505 green certificates/MWh;
- The weighted average price (PMP25) of the green certificates used by the electricity supplier to meet the mandatory purchase quota of green certificates for the previous year, which may not be higher than the weighted average price of spot anonymous centralized market transactions of green certificates of the previous year. The PMP of the transactions in the centralized green certificates' market trading sessions from January 1st to December 31st, 2021 is calculated by the electricity and natural gas market operator OPCOM S.A, up to four decimal places, as the weighted average closing price value of the centralized anonymous green certificates' spot market trading sessions for each period, and published on the latter's own website. The value calculated for 2021 is 142.2107 RON/green certificate.

Source:

https://www.opcom.ro/opcom/uploads/doc/PCBCV/Rapoarte/raport_PCBCV_2021_RO.pdf

In 2021, 134 electricity suppliers billed electricity to final consumers. Of these, 81 economic operators, representing 60.45% of the 134 economic operators with a green certificates' purchase obligation in 2021, submitted the templates according to Annexes 1 and 2 to the *Procedure.*

A number of 53 economic operators, representing 39.55% of the number of 134 economic operators with a green certificates' purchase obligation, who billed electricity to final consumers in 2021, did not submit to ANRE the templates regarding the monthly billing of green certificates to final consumers, thus failing to comply with the provisions of Article 15 of the *Procedure.*

1.4. The analysis, modelling and simulation activity carried out within ANRE

1.4.1. Legal provisions

The actions carried out using the PLEXOS software have been structured in accordance with the legal provisions in force regarding the need to comply with the

[23] *OPCV – OPCOM operator of the electricity and natural gas market in Romania*

[24] *The verification of the billing of electricity provided for 2021 will start in September 2022, the calendar month until which the regularisation of the green certificates billing for 2021 is allowed*

[25] *PMP - Weighted average price*

provisions of Article 9 paragraph (1) letter s), paragraph (5) letters a), b), c) and f) from *Law no. 160/2012 for the approval of Government Emergency Ordinance no. 33/2007 regarding the amendment and completion of the Law on electricity no. 13/2007 and the Law on gas no. 351/2004*:

The tasks and competences of ANRE in the electricity and heat energy sector produced in cogeneration:

(1) ANRE is empowered with the following attributions and competences in the electricity and thermal energy sector produced in cogeneration:

ș) monitors the functioning of the electricity market in order to assess its level of efficiency, transparency and competition, continuity of supply, based on its own regulations, and ***prepares annual reports on the activity carried out, the issues detected, the solutions applied and the results obtained****;*

(5) The reports referred to in paragraph (1) (c) shall also include information on:

a) level of safety in the operation of the power grids;

b) forecast of the balance between resources and electricity consumption for the next 5 years;

c) planning the commissioning of new production capacities;

f) estimation of the development of the security of electricity supply for a period between 5 and 15 years from the date of the report.

The analyses and simulations on the complex functioning of the national electricity system and the electricity and natural gas market, respectively, have considered the development and running of analysis scenarios for determining the performance of the different configurations of the electricity generation components (integrating all types of generation and primary sources of electricity: hydro, nuclear, renewable sources, hydrocarbons, solid fuels) and for different electricity consumption situations.

Modelling and simulations have been carried out with the help of the PLEXOS software[26] and a number of analysis models have been developed, according to the data and information extracted and processed from the databases within ANRE, adapted to the specificity of the properties and data needed for simulation models, but also by collecting up-to-date and additional data from network operators and producers in the field of electricity and natural gas, as well as from free online platforms.

1.4.2. The purpose and utility of modelling with the help of dedicated software

The main purpose of the software is to assist ANRE in establishing the scenarios needed to be modelled in terms of the **optimal functioning of the electricity system in Romania in the context of decentralization and increasing the share of electricity from renewable sources** that can influence the functioning of the electricity and natural gas markets. By designing and developing analysis and modelling scenarios using real data of the electricity and natural gas generation, transmission and distribution system, taking into account the planning of the efficient use of available energy resources, one can obtain results that can serve as a basis for **technical and economic analysis considering the implementation of different scenarios and targets**, introduced with the package of regulations issued at European level, i.e. the Clean Energy Package.

At European level, national regulators are actively working to improve the performance of electricity and gas markets. Transmission system operators (TSOs) are thus required to **regularly assess the long-term adequacy of the national electricity systems**

[26] *PLEXOS is a software developed by Energy Exemplar, used for simulating operating scenarios regarding the electricity and natural gas market (https://energyexemplar.com/solutions/plexos/)*

(*the ability of the power system to continuously meet the power and energy demands of consumers, taking into account the outages of system elements, both scheduled and reasonably expected to occur in an unscheduled manner*) and prepare **long-term network development plans in each country, in accordance with the applicable rules established by the European Union**.

The national regulatory authorities of the EU Member States are **responsible for monitoring this process** and, in most cases, as is the case with ANRE, **can review and approve the plans or assessments of the electricity and gas transmission system operators submitted for analysis**. In order to enable effective monitoring, a sound understanding of the benefits and challenges of coupling European markets is recommended, in order to carry out an analysis and propose modelling scenarios using real technical and commercial data related to the functioning of the energy market and the interconnected electricity system.

Thus, following modelling and simulation using dedicated software, such as PLEXOS software and others, Regulatory authorities can benefit from **clear capabilities and information** that can provide real help in the review and **critical assessment of long-term development plans submitted by TSOs and transferor distribution operators**, the optimal functioning of the electricity and natural gas markets, taking into account the topology of the electricity network and the tolerability of the assumed RES target.

ANRE is also involved in **promoting the development of competitive electricity and natural gas markets,** which may lead to the need for more detailed market analyses that could be supported by a series of modelling and simulation scenarios, in order to assess the potential impact of electricity prices, taking into account electricity costs, local fuel costs, international energy market prices, cross-border exchanges, competition and market liquidity, taking into account the **technical state of the current networks in Romania and the need to invest in the electricity generation, transmission and distribution network for the optimal integration of RES** (considering the assumed target) and **obtaining flexibility in the operation of national electricity systems** by analysing the need for backup/storage systems.

The analysis and modelling activity using dedicated software is able to provide **information and forecasts about the future** that can be used in the development of various strategies to meet future challenges, such as optimal integration of RES. Models of analysis based on modelling means used at the European Commission level are **often simplified models**, firstly, **due to constraints on available input data and their granularity**, and secondly, **to dedicated processing and computing units** that require higher configurations and long time to solve mathematical models (digital energy systems) related to real energy systems, taking into account their realistic operation. As a result, some of the **effects of the local energy system operating limitations and constraints for each Member State could often be ignored** in the development of future scenarios.

In the medium and long term, in order to achieve the optimal balance between generation and consumption, additional flexibility solutions and a realistic assessment of resource adequacy will be needed, **not only at regional (EU) level, but also at local level**, based on forecasting and consumption scenarios, taking into account the availability of current and future electricity generation sources, decommissioning of production assets, future commissioning to meet RES targets and reduction of carbon emissions.

Modern tools and specific analysis and modelling software on the development of the local, interconnected energy system can provide **a solid basis for estimating the necessary**

changes in the electricity system, both in terms of installing new sources of electricity generation, optimal development of transmission and distribution networks and increasing flexibility in the use of electricity in the energy system (recent studies address the need for both flexible electricity generation and flexibility in electricity consumption), in order to achieve certain climate and environmental objectives and targets.

The examination of the necessary investments in the electricity generation and transmission system, taking into account the natural gas production and transmission system and the identification of flexibility options thus become **a co-optimization issue for the expansion of electricity generation, transmission and storage capacities at local level, interconnected to neighbouring systems.**

The need to reduce greenhouse gas emissions has added a new dimension for consideration in what concerns **the development of long-term energy scenarios**. In addition to traditional factors, such as technological progress, demographic, economic and political considerations, there may be another aspect of modern energy projections related to **coverage, timing and stringency of policies to mitigate greenhouse gas emissions** and air pollutants. While current scenarios show that the transition to a low-carbon energy future **requires a drastic change in energy investment and the resulting mix in the use of energy technologies**, the technological mix exactly classified per resource types, the paths to the required mix, the price and cost projections should **be managed with a high degree of caution**.

The analysis scenarios cannot provide accurate forecasts, but could be used as **a solid basis for a future qualitative analysis of the decision-making risks associated with different paths of progress** toward achieving the targets undertaken at Member State level.

The recent pandemic context, namely the COVID-19 crisis, has shown the essential role of using data and information for crisis management, but also of informed decision-making by authorities. Relevant data have a key role to play in achieving the objectives of the European Green Agreement and the EU Recovery Plan, given their innovation potential and their contribution to efficiency in optimal use and in monitoring data collection of industries across all sectors, including the energy sector.

Numerical modelling can make a major contribution to understanding the functioning of the European and local electricity and gas markets, current and future local infrastructure needs and is an essential element of any regulatory, analysis and planning exercise, as well as a requirement to analyse the effects of legislative changes issued at European level. Mathematical modelling provides the opportunity to quantify the impact of options in identifying alternative policies, the results of which can be used in support of decision-making, modelling becoming increasingly complex taking into account the complexity and specific functioning of energy systems as a whole.

Starting **with September 2020**, the analysis and simulation activities according to ROF could be carried out within ANRE, after the public procurement process of the license of the PLEXOS software valid for a period of 12 months. The analysis and simulation activity took into account the actions proposed according to the **Action Plan for the use of the PLEXOS software within ANRE, approved by ANRE management.**

1.4.3. Developed analysis models and results

According to the competences and tasks of ANRE, taking into account the **main functionalities of the PLEXOS software**, throughout 2021, analysis models and study drafts regarding the influence of the configuration of the electricity transmission network in the

model were developed with the help of the PLEXOS software[27], analysing the coverage of the consumption curve at region level, using real data on electricity transmission networks.

Some of the data on electricity and thermal energy needs and available generation capacities for 2020 were also collected and updated, using the technical characteristics of the electricity and thermal energy generation units, according to the data available within ANRE and the data made available by the electricity and natural gas transmission system operators.

Economic data related to the operation of generators/producers (operating and maintenance costs, fixed costs, variable costs, starting costs of generation units, etc.) – the data processed from the data made available by the producers through the documentation submitted for the running of PowrSism by the TSOs were considered, in accordance with the legal obligations in force at the time of the database configuration.

The analysis, modelling and simulation activity with the help of the PLEXOS software was channelled into **4 main directions**, more precisely:

- **Data collection** and information for creating and configuring Excel, .csv, .xml workable databases in PLEXOS software-specific files,
- **Creation of specific databases** and analysis models in software language,
- **Configuration and development of analysis model**: electricity models and natural gas models, respectively.
- **Simulation of configured analysis scenarios**, interpretation of results obtained and calibrations required to be performed, depending on the analysis and interpretation of the results.

The results obtained from the scenarios analysed with the help of the software, as well as the analysis assumptions considered based on the use of data related to the existing or updated databases were approved by the management of ANRE, according to the reports prepared in 2021.

1.4.4. Conclusions and proposals for future actions

The energy transition and deep decarbonisation of the future electricity mix will require optimal integration of intermittent renewable energy sources.

The high share of variable energy sources (vRES) in future electricity generation, as well as their dependence on climate change, has the potential to significantly change the dynamics of the electricity supply system, at both local and regional level. The manner in which flexibility is currently provided by means of conventional thermal energy generation technologies (which currently offer a large share of flexibility over all time frames) will allow analyses to integrate future technologies, while ensuring security in the continuous supply of electricity to consumers connected to electricity and natural gas networks.

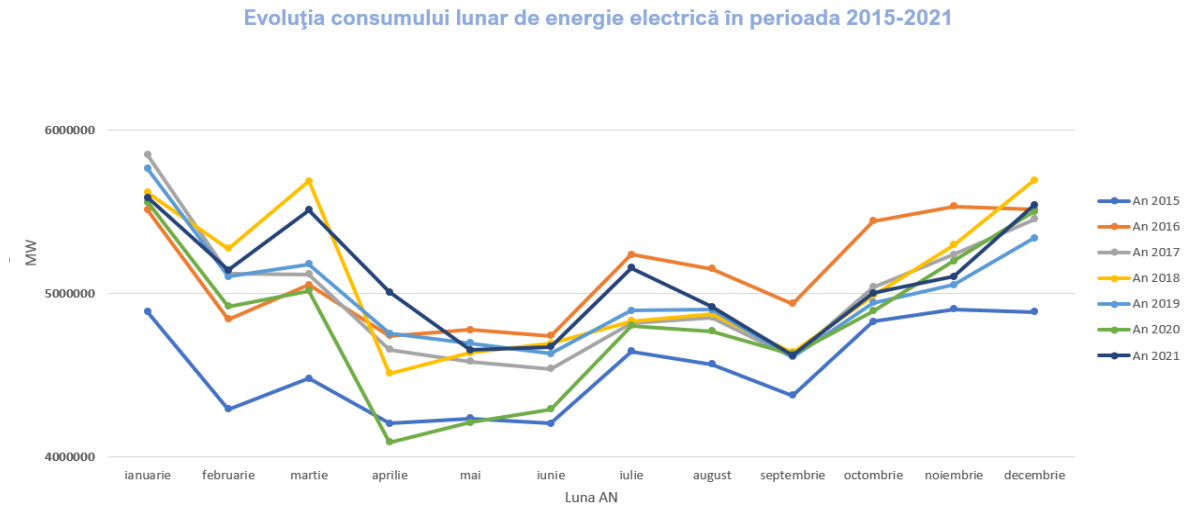
Scenario analyses are able to provide information about the future and possible strategies to meet challenges, such as optimal integration of renewable energy sources, variable and hard to predict electricity sources.

Thus, the models used to analyse the development of future energy systems are often simplified models, first of all, due to the constraints on available input data and their granularity and processing and computing units that require higher configurations and long time to solve complex mathematical analysis models.

[27] *The virtual node electricity model, the integrated electricity transmission network model and the natural gas model.*

In view of this, the effects of actual limitations and constraints of the energy system in the electricity transmission and distribution network and differences at local and regional level for each Member State are often ignored when developing and implementing scenarios for the analysis and modelling of energy systems.

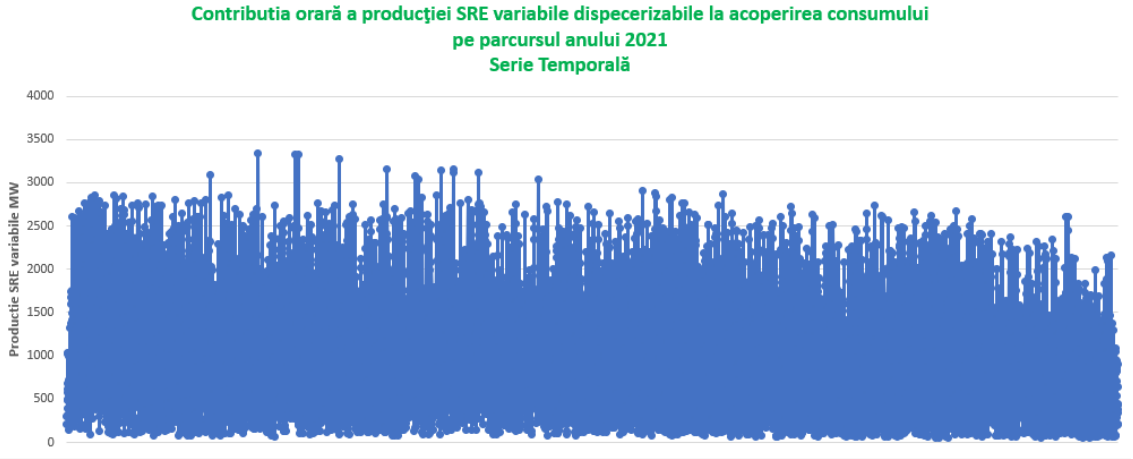
Figure no. 21. The development of monthly electricity consumption in the period 2015-2021



Development off the monthly electricity consumption in the period 2015-2021, Month, Year

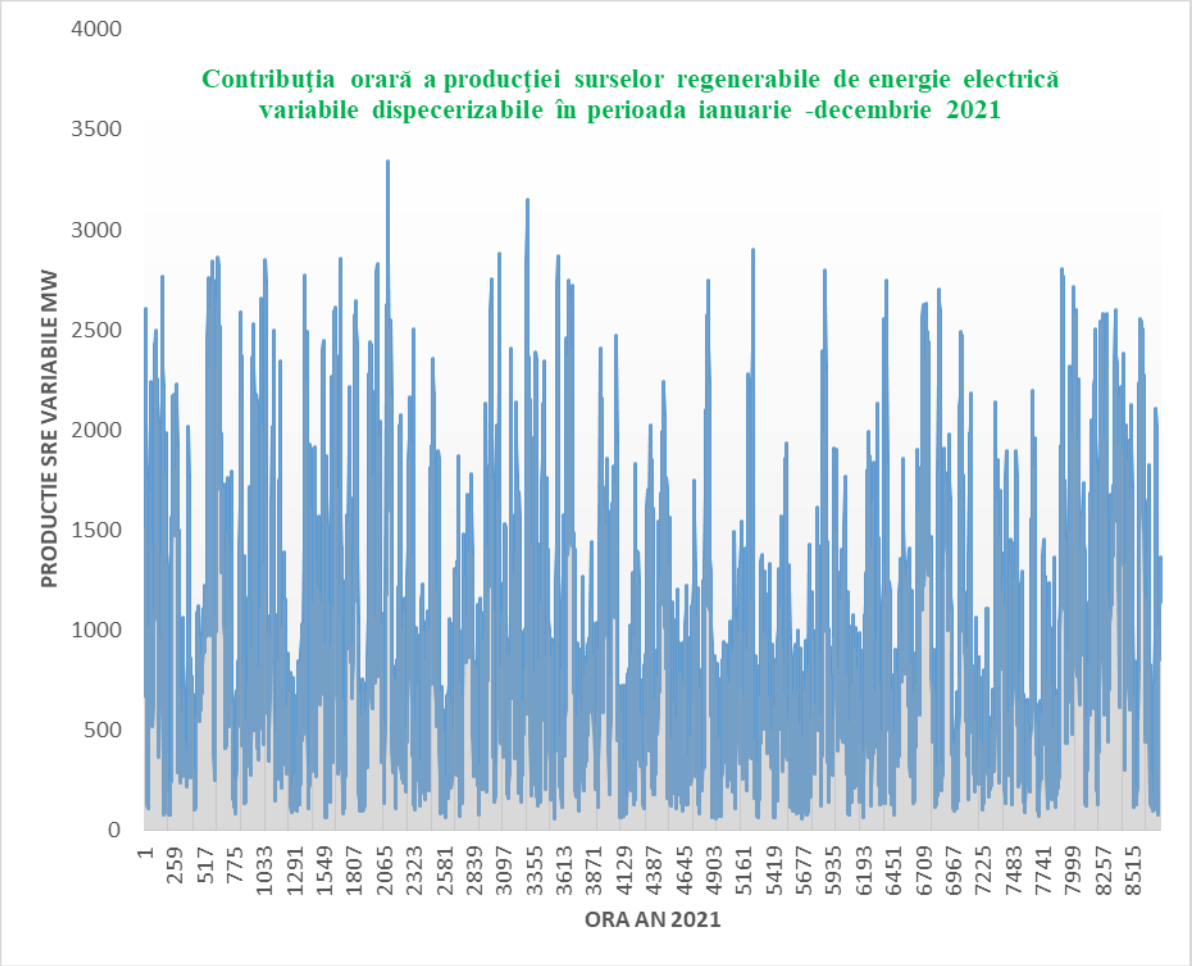
In the long term, additional flexibility solutions will be needed, in order to achieve and maintain the optimal balance between production and consumption. A realistic regional and local resource adequacy assessment may also be required based on future forecasting scenarios for consumption, taking into account the availability of current and future energy generation resources, the decommissioning of generation assets, the achievement of RES targets, carbon emissions and others.

Figure no. 22. The contribution of RES generation to the coverage of the annual consumption curve



Hourly contribution of the generation of variable renewable energy sources dispatchable in the period January - December 2021 – Temporal series

Figure no. 23. Hourly contribution of the generation of variable renewable energy sources dispatchable in the period January - December 2021



Hourly contribution of the generation of variable renewable energy sources dispatchable in the period January - December 2021, RES generation/ Variability MW

Modern tools and specific analysis applications for the development of the energy scenario at local level, separately, but also interconnected, can provide a solid basis for estimating the necessary changes in the energy system, both in terms of installing new sources of electricity generation, optimal development of transmission and distribution networks and increasing flexibility in the use of electricity in the energy system (recent studies address the need for both flexible energy generation and consumption) to achieve certain climate and environmental objectives and targets. The examination of the necessary investments in flexibility options thus becomes a co-optimization issue for the expansion of electricity generation, transmission and storage capacities.

According to EUROSTAT reports, the share of RES at European Union level is constantly increasing, but the classical sources of electricity production are still used in many Member States with different weightings, depending on the specific mix of each Member State, according to the data below.

Figure no. 24. Electricity generation per primary source of electricity generation in 2020 (source: EUROSTAT)

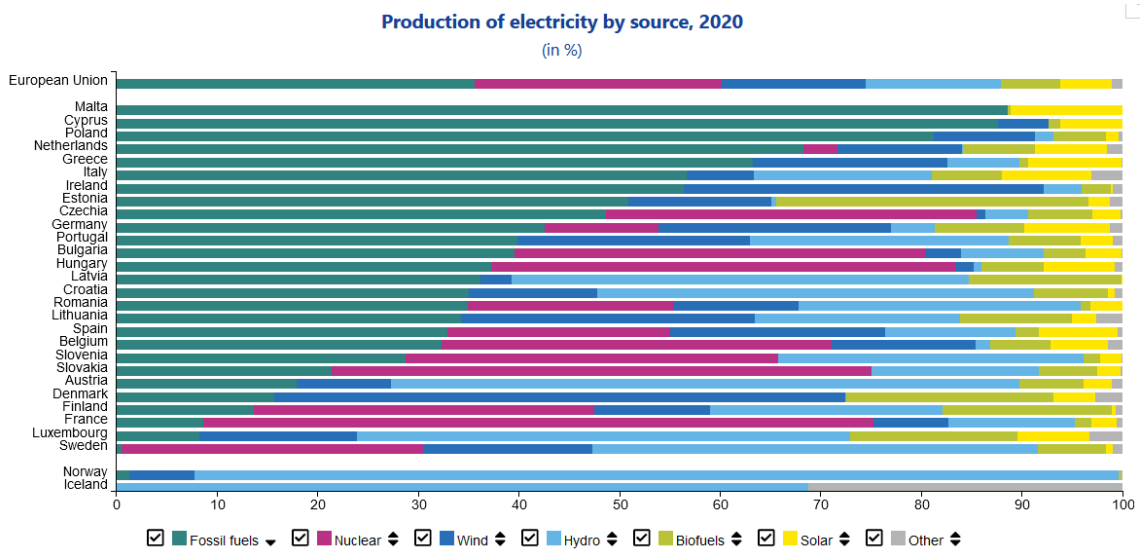


Figure no. 25. Dependency on natural gas at EU level, (source: EUROSTAT)

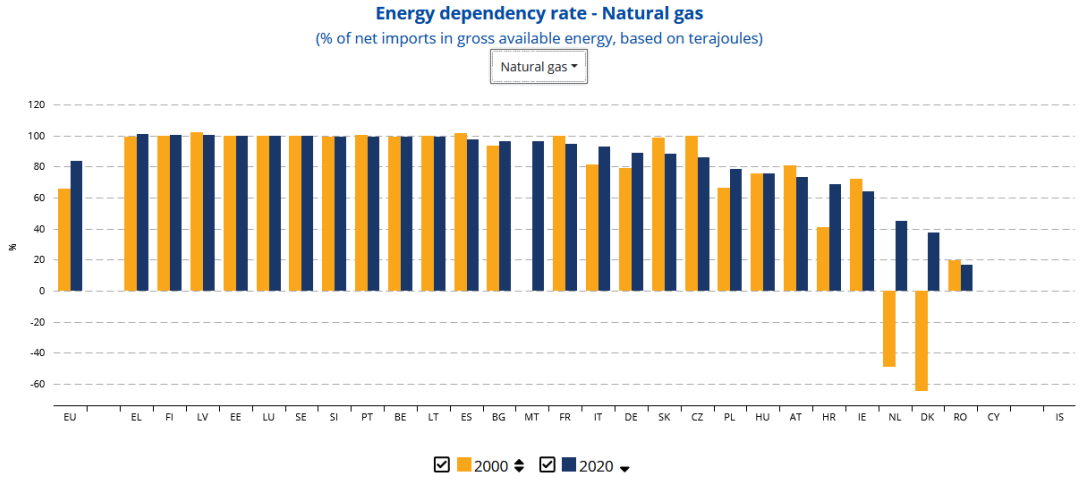
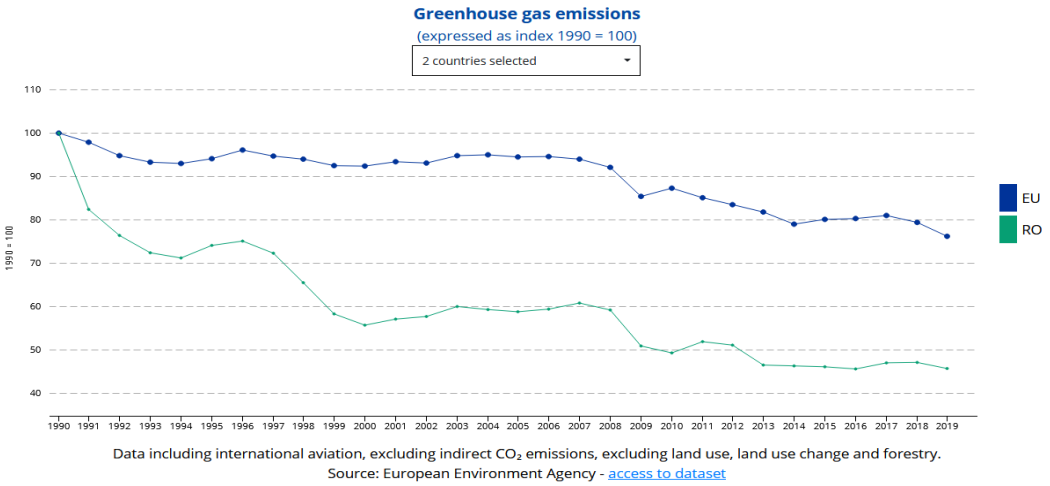


Figure no. 26. The EU and Romania greenhouse gas emissions index 1990-2019 (source: EUROSTAT)



The need to reduce greenhouse gas emissions has added a new dimension to be considered for the development of long-term energy scenarios. In addition to traditional factors, such as technological progress, demographic, economic, political and institutional considerations, there is another aspect related to modern energy projections in what concerns the coverage, timing and strictness of policies to mitigate greenhouse gas emissions and air pollutants.

While current scenarios show that the transition to a low-carbon energy future requires a drastic change in energy investment and the resulting mix of energy technologies, the exact technological mix, the paths to the required mix, price and cost projections should be managed with a high degree of caution. Scenarios cannot provide accurate predictions, but can be used as a qualitative analysis of the decision-making risks associated with different paths.

The proposals for future actions take into account the tasks and current activity of ANRE, taking into account the functionalities offered by PLEXOS that can be configured using the specific parameters.
Thus, ANRE aims to approach specific analyses, adapted to the actual situation in the national electricity system, considering analysis and sensitivity scenarios below:

Electrical energy field

1. **Assessment of the support scheme for high efficiency cogeneration based on the results of PLEXOS modelling**, according to the notification documentation assessment plan for the extension of the support scheme sent by the Ministry of Energy to the European Commission.
2. Long-term modelling (2025, 2030) for **simulating the optimal integration of future renewable energy capacity** with or without the use of batteries or other types of electricity storage facilities, as well as determining the costs of installing new electricity generation and/or transmission capacities and their optimal location in the national electricity system.
3. Operation in **economic optimal dispatch under market conditions (Competition Module -PLEXOS)** for the electricity and/or natural gas sector, with the possibility of setting up contractual physical, financial and fuel obligations used for the production of electricity and natural gas, respectively. The optimal evolution (in terms of production costs) of electricity prices in the upcoming years considers certain calculation assumptions close to a real functioning of the electricity market in Romania, assumptions that can be reconsidered at any time, by modifying and/or updating the input data in the model, both in terms of values and by introducing additional parameterizations that reflect a situation as close as possible to the real one, intended to be modelled to reflect a competitive market.
4. Determination **of capacity reserve requirements and national electricity system adequacy**, VoLL (Value of Lost Load), LOLE (Loss of Load Estimation), LOLP (Loss of Load Availability) estimation. Estimation of losses at the level of the electricity transmission network and assessment of optimal flow of electricity in certain operating modes and details regarding network elements/sectors that could generate congestion.
5. Specific modelling and analysis, according to the provisions of the **Monitoring methodology of the system of promoting the production of electricity from renewable energy sources,** approved by means of Order 52/2021, with subsequent amendments and completions, namely: **forecasts of gross final consumption of electricity, forecast of the**

development of electricity prices on the wholesale market and the price of thermal energy, respectively.

6. Analysis of the possibility of configuration and running, using the PLEXOS software, of **an integrated model regarding electricity and natural gas**.

Natural gas field

1. Setting up virtual points characteristic for the natural gas network in Romania, taking into account the analysis, processing and integration of the model data following the completion of the data processing transmitted by the natural gas network operator, SNT Transgaz.
2. Optimal charging of the natural gas transmission network, by configuring and entering the data specific to the natural gas transmission system, processed in specific features of PLEXOS, from the data transmitted by SNT Trangaz.
3. Taking into account scenarios, such as limiting the amount of natural gas that can be extracted (Withdrawal Ratchet) in certain periods and hours of the time horizon (scenarios related to model sensitivity under extreme temperature conditions) and rethinking of the natural gas consumption curve from a daily distribution into an hourly distribution, in the form of a demand patterns curve.
4. Assessment of the possibility of setting up technical limitations for the natural gas transmission network, by introducing transmission tariffs as a feature in the model. Throughout 2021, with the installation of the latest version of PLEXOS allowing detailed analysis on the natural gas side, a series of additional data were introduced in the model, namely data for the technical nodes of the national gas transmission system and the pipes that make the physical connection between them, thus seeking to integrate a gas pipeline configuration into the model, which could introduce technical limitations in the operation of the model, as is realistically the case in the system, with the additional possibility of introducing tariffs for the provision of the gas transmission service, including capacity booking rates at configured entry/exit points.
5. Sensitivity analyses regarding the influence on the price of natural gas of important factors considered in the modelling process, as well as the dependence of the price of natural gas on the source of supply.

The assessment of critical scenarios and operational situations can provide a solid basis for the reassessment of the current regulations applicable to specific areas and future needs for monitoring the impact of medium and long-term regulations.

In conclusion, **numerical modelling with the help of PLEXOS of the optimal functioning of the energy system (electricity and natural gas) in Romania can make a major contribution to understanding the functioning of the electricity and natural gas markets**, both at the level of the Romanian region and at European level, the needs of current and future local infrastructure and production sources, and **is an essential element of any short, medium and long-term regulatory, analysis and planning exercise**.

2. GENERATION OF ELECTRICITY AND THERMAL ENERGY IN COGENERATION

2.1. Promoting electricity generated in high-efficiency cogeneration

2.1.1. Legislation in the field of promotion of electricity generated in high-efficiency cogeneration

The support scheme for the promotion of high efficiency cogeneration was established in Romania by means of GD no. 219/2007 *on the promotion of cogeneration based on useful heat energy* (National transposition of Directive 2004/8/EC of the European Parliament and of the Council *on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC*, which, as of June 5th, 2014, has been replaced by the provisions of Directive 2012/27/EU*)* and implemented by means of GD no. 1215/2009 *on the establishment of criteria and conditions necessary for the implementation of the support scheme for the promotion of high-efficiency cogeneration based on the demand for useful heat.*

By means of Government Decision no. 494/2014 amending Government Decision no. 1215/2009 *establishing the criteria and conditions necessary for the implementation of the support scheme for the promotion of high-efficiency cogeneration based on demand for heat,* the exemption from the payment of the contribution for high-efficiency cogeneration, namely the unit tariff, paid monthly, is provided for, expressed in RON/kWh, for suppliers delivering electricity for export.

By means of GD no. 925/2016 amending and supplementing GD no. 1215/2009 and GD no. 129/2017 for the completion of Art. 8 of GD no. 1215/2009, the completion of the legal framework for the application and implementation of the support scheme for the promotion of high-efficiency cogeneration based on useful heat demand is ensured, with a view to harmonizing with the specific provisions of the *Guidelines on state aid for environmental protection and energy for the period 2014-2020 (OAME)* and *Council Regulation (EU) 2015/1589 of July 13th, 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union*. In this respect, the bonus scheme included plants with micro-cogeneration units and/or low-power cogeneration units totalling an installed electrical capacity of less than 1 MW. According to GD no. 925/2016, the support scheme applies only to producers of electricity and thermal energy in cogeneration who request ANRE to grant this support for electricity generated in high-efficiency cogeneration, for cogeneration capacities listed in the list referred to in Article 9(4) up to 31.12.2016, and for new cogeneration capacities replacing existing cogeneration capacities after 31.12.2016, which received the bonus for high-efficiency electricity, within the limit of the installed electrical capacity entered on 31.12.2016 in the list referred to in Article 9 (4), for each beneficiary producer of the support scheme.

By means of GD no. 846/2018 for the amendment and completion of GD no. 1215/2009, it is stipulated that the adjustment of the values of bonuses and of the prices of thermal energy granted to producers of electricity in high efficiency cogeneration, as well as the determination of the selling price of electricity generated in high efficiency cogeneration should be achieved half-yearly, instead of annually, and the heat energy prices and bonuses determined for the following year will also apply in November and December of the current year. Also, GD no. 846/2018 provides for the application of bonus reductions for November and December of the current year, in accordance with the analysis of the costs and revenues estimated by each producer in the fourth quarter of the previous year, as well as for the method to reduce the bonuses established for the second half of the year, in accordance with

the results of the pre-overcompensation analysis carried out for that year. At the same time, in GD no. 846/2018, it is stipulated that, in order to ensure the funds necessary to pay the bonuses applicable in November-December, ANRE establishes the contribution for high efficiency cogeneration applicable in the period November-December of the current year, by considering the need for revenues for the payment of the bonus for this period.

The bonus type support scheme represents state aid (N 437/2009 - Romania), authorized by the European Commission as being compatible with the common market, in accordance with the provisions of Art. 87(3)(c) of the EC Treaty by means of Decision C(2009)7085, as amended by Decision C(2016) 7522 - final version. State aid represents a type of operational aid. The effective implementation of the bonus support scheme took place on April 1st, 2011.

Following the notification by the Ministry of Energy of the extension of the State aid for cogeneration, **by means of Decision C(2021) 9774 final version, State aid no. 57969 (2021/N) – amendment N 437/2009 and SA 45976 (2016/N) was approved by the European Commission, according to which, producers of electricity and thermal energy in high-efficiency cogeneration may request the extension of the period of application of the support scheme for the promotion of high-efficiency cogeneration on the basis of useful heat demand until no later than 2033, without exceeding 21 years from the receipt of the aid, cumulated in 2011-2033.** The transposition into the primary legislation of the provisions of Decision C(2021) 9774 - final version was carried out by means of GD 409/2022 for amending and supplementing the Government Decision no. 1.215/2009 on establishing the criteria and conditions necessary for the implementation of the support scheme for promoting high-efficiency cogeneration based on the useful heat demand.

2.1.2. Directions of activity in promoting electricity generated in high efficiency cogeneration

The main directions of the regulatory activity in the field of promoting electricity generated in high efficiency cogeneration for 2021 were the following:
a) development of regulations allowing the application of the bonus type promotion scheme established by means of *GD no. 219/2007 on the promotion of cogeneration based on useful heat demand*;
b) issuance of the approval decisions and amendment of the list of electricity and heat generation capacities in cogeneration, with final certification;
c) issuance of monthly decisions approving the quantities of electricity produced in high-efficiency cogeneration benefiting from the bonus;
d) issuance of annual decisions to qualify the quantities of electricity produced in high-efficiency cogeneration benefiting from the support scheme;
e) issuance of decisions on overcompensation of the activity of generating electricity and thermal energy in high efficiency cogeneration for the assessment period 01.01.2020-31.12.2020;
f) issuance of the approval orders for the values of the reference bonuses for electricity generated in high-efficiency cogeneration, the reference prices for thermal energy produced in cogeneration and the reference prices for electricity, applicable in 2021 – July-October period;
g) issuance of the decisions approving the values of the electricity bonuses and regulated prices for thermal energy, for the producers who have accessed the support scheme, for the period July-October 2021;

h) issuance of the approval orders for the values of the reference bonuses for electricity generated in high-efficiency cogeneration, the reference prices for heat produced in cogeneration and the reference prices for electricity, applicable in November-December 2021 and in 2022;
i) performance of the pre-overcompensation analysis for the assessment period 01.01.2022 – 31.12.2022 - ANRE analyses the costs and revenues related to the activity of generating electricity in high-efficiency cogeneration, namely of the thermal energy produced in cogeneration, estimated for the following year for each producer benefiting from the support scheme and, in accordance with the results obtained, the bonuses for each producer for the following year are approved;
j) issuance of decisions approving the bonus for electricity and regulated prices for thermal energy produced in high efficiency cogeneration, for the period November – December 2021 and for the year 2022;
k) issuance of notifications for the approval of thermal energy prices based on the price determination/adjustment formulas for thermal energy produced and delivered from cogeneration plants where operators and local government have opted for formula-based heat pricing and issuance of notifications for the approval of regulated prices for cogeneration thermal energy determined on the basis of these formulas;
l) analyses of the adjustment of the contribution for the period July-October 2021, November-December 2021 and the determination of the amount of the contribution for cogeneration, starting with January 1st, 2022 and the issuance of the approval orders for the contribution for the respective cogeneration.

The activity regarding the regulatory directions a) ÷ l) in the field of promoting electricity generated in high efficiency cogeneration for 2021, materialized in the **elaboration of regulations** allowing the application of the bonus-type promotion scheme.

In 2021, the following regulations were approved:

1. ANRE Order no. 8 of 17.02.2021 amending and completing the Procedure for pre-approving new plants or refurbishment projects of cogeneration plants, approved by means of Order of the National Energy Regulatory Authority no. 115/2013;
2. ANRE Order no. 38 of 09.06.2021 on the approval of the reference price of electricity generated in high efficiency cogeneration, which benefits from the bonus;
3. ANRE Order no. 39 of 09.06.2021 on the approval of the values of the reference bonuses for electricity generated in high efficiency cogeneration and of the reference prices for thermal energy produced in cogeneration, applicable in 2021;
4. ANRE Order no. 102 of October 6th, 2021 on amending and supplementing the Methodology for setting and adjusting prices for electricity and thermal energy produced and delivered from cogeneration plants benefiting from the support scheme, namely the bonus for high efficiency cogeneration, approved by means of Order of the National Energy Regulatory Authority no. 15/2015;
5. ANRE Order no. 104 of 13.10.2021 on the approval of the reference price of electricity generated in high efficiency cogeneration benefiting from the bonus;
6. ANRE Order no. 105 of 13.10.2021 on the approval of the values of the reference bonuses for electricity generated in high efficiency cogeneration and of the reference prices for thermal energy produced in cogeneration, applicable in 2021;
7. ANRE Order no. 111 of 27.10.2021 for the amendment of the Order of the National Energy Regulatory Authority no. 123/2017 regarding the approval of the contribution for high efficiency cogeneration and certain provisions regarding its billing mode.

Regulations were also issued for cogeneration producers who did not access the bonus support scheme, namely:

1. ANRE Order no. 40 of 09.06.2021 amending and supplementing the Methodology for setting prices for thermal energy delivered in SACET from power plants with cogeneration units that do not benefit from support schemes to promote high efficiency cogeneration, approved by means of Order of the National Energy Regulatory Authority no. 111/2014;
2. Order no. 41 of 09.06.2021 on the approval of the reference price values for thermal energy delivered in SACET from power plants with cogeneration units that do not benefit from support schemes for the promotion of high efficiency cogeneration, applicable in the first semester of 2021;
3. ANRE Order no. 106 of 14.10.2021 amending and supplementing the Methodology for setting prices for thermal energy delivered in SACET from power plants with cogeneration units that do not benefit from support schemes to promote high efficiency cogeneration, approved by means of Order of the National Energy Regulatory Authority no. 111/2014;
4. ANRE Order no. 110 of 20.10.2021 on the approval of the reference price values for thermal energy delivered in SACET from power plants with cogeneration units that do not benefit from support schemes for the promotion of high efficiency cogeneration, applicable in the period November - December 2021 and in the first half of 2022.

Update of the list of electricity and heat generation capacities in cogeneration with final certification

In 2021, 2 decisions were issued for the approval and for the amendment of the "List of capacities for the generation of electricity and thermal energy in cogeneration, with final certification".

Issuance of monthly decisions approving the quantities of electricity produced in high-efficiency cogeneration benefiting from the bonus

In January-December 2021, 12 decisions were issued to approve the monthly quantities of electricity produced in high-efficiency cogeneration benefiting from the bonus.

The decisions are directed at the beneficiary C.N. Transelectrica S.A., acting as administrator of the bonus support scheme, and represent the basis for the latter's establishment of monthly collection rights of producers of electricity and thermal energy in cogeneration, according to the provisions of Article 10(2) and Article 16 of GD no. 1215/2009 on the establishment of the criteria and conditions necessary for the implementation of the support scheme for the promotion of high-efficiency cogeneration based on the demand for useful heat, with subsequent amendments and completions.

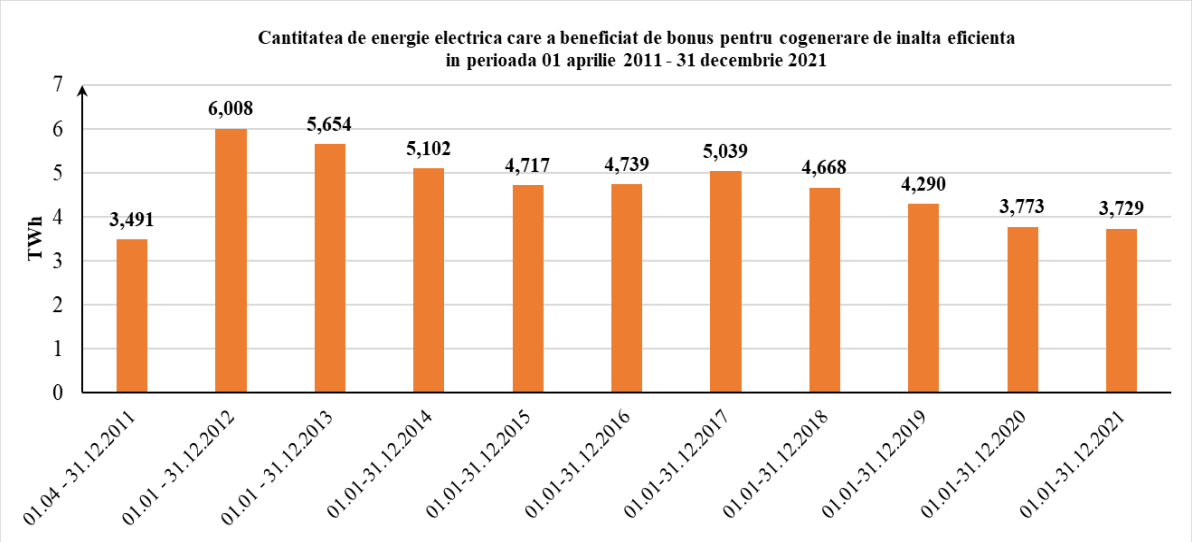
The monthly quantities of electricity produced in high efficiency cogeneration benefiting from the bonus are determined according to the provisions of Art. 31 - 34 of the *Qualification regulation*, approved by means of ANRE Order no. 114/2013, with subsequent amendments and completions.

For the 29 producers in question, the total amount of electricity produced in high-efficiency cogeneration that benefited from the bonus for the period January - December 2021 was 3.700 TWh, before the regularization to be carried out in March 2022, namely 3.729 TWh after the regularization carried out in March 2022, with a decrease of approx. 1.17%, when compared to 2020.

Issuance of annual qualification decisions in what concerns quantities of electricity produced in high-efficiency cogeneration benefiting from the support scheme

In March 2021, 29 decisions were issued on the qualification of the amount of electricity generated in high-efficiency cogeneration and delivered from the plants benefiting from the support scheme for the period January-December 2020.

The decisions were the basis for the settlement of the payments corresponding to the bonus for the period January-December 2020 by C.N. Transelectrica S.A. The qualified quantity for 2020, cumulated for the 29 producers, amounted to 3.773 TWh.



Quantity of electricity that benefited from the bonus for high efficiency cogeneration between April 1st, 2011 and December 31st, 2021

In November 2021, a decision was issued on the qualification of the quantities of electricity generated in high-efficiency cogeneration and delivered from the plants benefiting from the support scheme for the period between January 1st and July 29th, 2021 operated by a producer for whom, by means of Decision of the President of ANRE - at the request of the producer - the withdrawal of the commercial exploitation license on as of July 30th, 2021 was approved.

Issuance of decisions on overcompensation of electricity and thermal energy production activity in high efficiency cogeneration for the assessment period 01.01.2020-31.12.2020

In March 2021, a decision was issued regarding the overcompensation of the activity of generation of electricity and heat in high-efficiency cogeneration for the assessment period 01.01.2020-31.12.2020.

Following the analysis of overcompensation of electricity and thermal energy generation activity in high efficiency cogeneration for the assessment period 01.01.2020 - 31.12.2020, it was found that, from the application of the support scheme for the mentioned period, for 41 power and thermal power plants in cogeneration (in the commercial exploitation of 29 producers), 1 plant (one producer) registered overcompensation of the activity of generation of electricity and thermal energy in cogeneration, in a total amount of RON 16,474,649.

The ANRE President's decision on the amount of overcompensation was the basis of the decision and the bill issued by C.N. Transelectrica S.A. for the recovery of the overcompensation of the activity of generation of electricity and thermal energy in high efficiency cogeneration related to the assessment period 01.01.2020 - 31.12.2020.

Issuance of the decisions approving the bonus amount for electricity generated in high efficiency cogeneration, the regulated price values for thermal energy delivered in the form of hot water from cogeneration plants for the period July-October 2021, November-December 2021 and 2022, as well as the performance of the pre-overcompensation analysis for the assessment period 01.01.2022 – 31.12.2022

In June 2021, 18 approval decisions were issued, setting out the bonus amount for electricity generated in high efficiency cogeneration and the value of the regulated price for thermal energy delivered from cogeneration plants accessing the support scheme during July-October 2021, as well as **9 approval decisions** setting the bonus amount for electricity generated in high-efficiency cogeneration and delivered in the national electricity system from cogeneration plants accessing the support scheme from July to October 2021, and **3 approval decisions** setting the value of regulated prices for heat delivered from cogeneration plants not accessing the support scheme for the second half of 2021.

The bonuses established for the period July-October 2021 were reduced as appropriate, according to the results of the 2020 pre-overcompensation analysis for 2021.

In October 2021, **19 decisions** were issued (30 power plants) approving the amount of the bonus for electricity generated in high-efficiency cogeneration and the values of regulated prices for thermal energy delivered from cogeneration plants accessing the support scheme for 2022 and the period November - December 2021, of which, for 23 plants benefiting from the support scheme in April 2011, decisions were issued for the period November - December 2021 and in 2022 - January - March, having regard to Article 8(1) of GD no. 1215, with subsequent amendments and completions, **8 approval decisions** (8 power plants) setting the bonus amount for electricity generated in high-efficiency cogeneration and delivered in the national electricity system from cogeneration plants which accede to the support scheme for 2022 and the period November - December 2021, of which, for 3 plants benefiting from the support scheme in April 2011, decisions were issued for the period November - December 2021 and in 2022 - January - March, having regard to Article 8(1) of GD no. 1215, with subsequent amendments and completions, as well as **4 approval decisions** setting the value of regulated prices for heat delivered from cogeneration plants not accessing the support scheme for the first half of 2022 and the period November-December 2021.

The bonuses established for the period November-December 2021 were reduced as appropriate, according to the results of the pre-overcompensation analysis carried out in 2020 for the year 2021. Two producers did not apply for the bonus for 2022.

In June 2021, a decision was approved regarding the bonus for electricity generated in high-efficiency cogeneration and delivered in the national electricity system in 2020 for 1 producer (the latter took over 2 plants under the support scheme, for which the conditions laid down in Article 7 (1) and (1 1) of GD no. 1215/2009, with subsequent amendments and completions, have been fulfilled). In November 2021, the overcompensation analysis for 2021 was carried out for 2 plants of a producer that requested the withdrawal of the license for the commercial exploitation of the electricity and thermal energy generation capacities in cogeneration.

In September 2021, a decision was approved setting the value of the regulated price for thermal energy delivered from cogeneration plants not accessing the support scheme for the period September-December 2021.

Following the performance of the pre-overcompensation analysis in the fourth quarter of 2021, it was found that from the application of the 2022 support scheme for 26 cogeneration electricity and thermal energy producers, an overcompensation of electricity and heat production activity in cogeneration is not expected and the bonus at the reference bonus level has been approved and for one producer, an overcompensation of the electricity and thermal energy production activity in cogeneration is recorded at 2 plants, for which the corresponding bonus reduction has been applied. A producer had a bonus reduction for the period November-December 2021. The other issued decisions approved the bonus at the reference bonus level.

Issuance of permits for the approval of heat prices on the basis of price determination/adjustment formulas for thermal energy produced and delivered from cogeneration plants, where operators and local government have opted to establish the price of thermal energy based on formulas and to issue notifications for the approval of regulated prices for heat in cogeneration determined on the basis of these formulas.

2 notifications were issued for 2 producers for the approval of regulated prices for thermal energy in cogeneration determined on the basis of the formulas approved by ANRE.

Issuance of approvals for the final certification of new or refurbishment projects of cogeneration plants according to the *Procedure for approving new or refurbishment projects of cogeneration plants*, approved by means of ANRE Order no. 115/2013, with subsequent amendments and completions.

In 2021, no certification was issued.

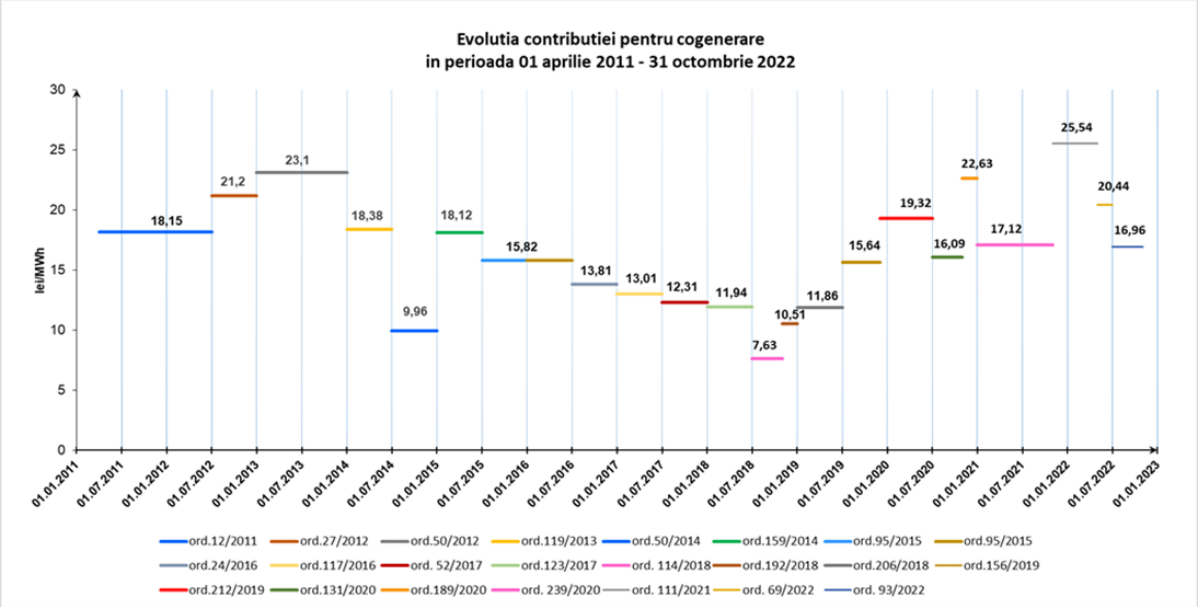
Establishment of the contribution for cogeneration for the second half of 2021, for the period November-December 2021 and for the year 2022. ANRE approves annually, by means of Orders, the value of the contribution for promoting high-efficiency cogeneration. In the event of variations exceeding ± 2.5 %, this value may be modified on a half-yearly basis by means of ANRE orders.

The amount of the contribution for both the first semester and the second half of the year 2021 (by the assessment of June 2021 of the costs and revenues of the support scheme achieved, as well as those forecast for the second half of 2021) has not changed, being at the value of 17.12 RON/MWh, excluding VAT, approved by means of ANRE Order no. 239/2020.

The value of the contribution starting with November 1st, 2021 was 25.54 RON/MWh, excluding VAT, approved by means of ANRE Order no. 111/2021. The increase was due to the increase in the revenue requirement for the bonus due to the increase in bonus levels applicable in the period 01.11-31.12.2021, as a result of the increase in fuel and CO_2 prices. Following the analysis carried out at the end of 2021, completed by the *High efficiency cogeneration contribution report valid from January 1st, 2022*, it was highlighted that the value of the contribution for high efficiency cogeneration was maintained at the value approved by means of ANRE Order no. 111/2021.

Order no. 69/2022 approved the amount of the contribution for cogeneration of 20.44 RON/MWh, excluding VAT, applicable as of May 1st, 2022, following the suspension of state aid for certain cogeneration capacities, for which the extension of the support scheme (producers in difficulty) was not accessed. Order no. 93/2022 approved the amount of the

contribution for cogeneration of 16.96 RON/MWh, excluding VAT, applicable as of July 1st, 2022 (half-yearly adjustment).



Development of the cogeneration contribution between April 1st, 2011 and October 31st, 2022

The data related to the monitoring of the cogeneration support scheme for the years 2011÷2021 are presented in Table I.

Table I - Results of the implementation of the support scheme for the period 2011-2021

Indicator	MU	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total amount of contribution billed to consumers and exporting suppliers [1)]	tRON	**690931**	**928877**	**1072840**	**770626**	**757447**	**708194**	**624519**	**519931**	**649543**	**876398**	**915645**
The amount of electricity billed to final consumers (including electricity consumed by suppliers and producers on a self-supply/self-consumption basis), to which the cogeneration contribution has been applied	GWh	**32639**	**46450**	**44930**	**45457**	**46476**	**47103**	**48669**	**50145**	**49488**	**47923**	**50575**
The amount of electricity exported, to which the cogeneration contribution has been applied	GWh	**1465**	**1108**	**1959**	**3310** [1)]	**0** [1)]	**0** [1)]	**0** [1)]	**0** [1)]	**0** [1)]	**0** [1)]	**0** [1)]
The amount of electricity generated in high-efficiency cogeneration that has benefited from the support scheme	GWh	**3491**	**6008**	**5654**	**5102**	**4717**	**4739**	**5039**	**4668**	**4290**	**3773**	**3729**
Total amount of bonuses due to cogeneration	tRON	**594473**	**978098**	**1098112**	**927234**	**896796**	**887761**	**842872**	**611658**	**734643**	**745657**	**943053**

producers benefiting from the bonus scheme [2)]												
The amount of electricity imported with guarantees of origin for the generation of electricity in high-efficiency cogeneration, for which the reimbursement of the contribution was requested	GWh	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Fuel economy achieved in high efficiency cogeneration processes benefiting from the bonus, in accordance with the provisions of the *Qualification regulation*	GWh	**2131**	**3498**	**3430**	**3016**	**2623**	**2751**	**2864**	**2702**	**2438**	**2094**	**2224**

[1)] According to GD no. 494/2014 for the amendment of GD no. 1215/2009 regarding the establishment of the criteria and conditions necessary for the implementation of the support scheme for the promotion of high-efficiency cogeneration based on the demand for heat, the exemption from the payment of the contribution for high-efficiency cogeneration, namely the unit tariff, paid monthly, expressed in RON/kWh, of suppliers delivering electricity for export purposes, is stated.
[2)] The total amount of bonuses due to producers in cogeneration, beneficiaries of the bonus scheme, includes bonuses not granted/undue, but does not include the amount of overcompensation/pre-overcompensation settlement

It should be pointed out that the amount of the sum required to be covered in one year of the payment of the cogeneration contribution is determined taking into account the costs of payment of bonuses due to producers, the costs of administering the support scheme, and the revenue from the overcompensation analysis for the previous year (difference between the received and the due bonus), financial revenues (interest, penalties) and the corrections related to the previous year, registered by the administrator of the support scheme, Transelectrica S.A.

The estimated budget of the support scheme is RON 10.7 billion, according to European Commission Decision C(2009)7085, as amended by Decision C(2016) 7522 - final version.

The total value of the contribution billed to consumers increased in 2021, compared to 2020, by approx. 4.48%, as a result of the increase in the amount of electricity to which the contribution for cogeneration was applied and the increase in the unit value of the contribution for high efficiency cogeneration (RON/MWh), as shown in the graph "Development of the contribution for cogeneration April 1st, 2011-April 30th, 2022" for November – December 2021.

The total amount of the bonus, paid since the start of the support scheme in 1.04.2011 and up to 31.12.2021 to the producers benefiting from the support scheme for electricity generated in high efficiency cogeneration (including the amount of the undue or non-granted bonus) is approx. RON 9.26 billion, the amount of pre-overcompensation regularisation is RON 0.03 billion, and the amount of overcompensation calculated for this period is RON 0.960 billion, resulting in about RON 8.33 billion bonus due to the producers benefiting from the support scheme.

The total value of bonuses due to cogeneration producers, beneficiaries of the bonus scheme, registers an increase, even in the context of the decrease of the amount of electricity generated in high efficiency cogeneration**,** as a result of the increase of the reference bonuses approved by means of ANRE Order no. 176/2020 (applied between January 1st and June 30th, 2021), ANRE Order no. 39/2021 (applied between July 1st and October 30th, 2021) and those

approved by means of ANRE Order no. 105/2021 (applied between November 1st and December 31st, 2021), compared to those approved by means of ANRE Order no. 211/2019 (applied between January 1st and June 30th, 2020), ANRE Order no. 93/2020 (applied between July 1st and October 30th, 2020) and those approved by means of ANRE Order no. 176/2020 (applied between November 1st and December 31st, 2020), due to the increase in fuel prices, the price of the CO_2 certificates and inflation.

By means of ANRE Order no. 176/2020, the following reference bonuses, related to the 11th year of awarding, were approved for 2021:

- **174.19 RON/MWh** for plants that mainly use natural gas from the transmission network, with commissioning until 01.01.2016;
- **177.05 RON/MWh** for plants that mainly use natural gas from the transmission network, with commissioning after 01.01.2016;
- **184.65 RON/MWh** for plants that mainly use natural gas from the distribution network, with commissioning until 01.01.2016;
- **187.88 RON/MWh** for plants that mainly use natural gas from the distribution network, with commissioning after 01.01.2016;
- **309.73 RON/MWh** for plants that mainly use solid fuel.

These bonuses, in accordance with the provisions of Article 25(3) of GD no. 1215/2009 on the establishment of the criteria and conditions necessary for the implementation of the support scheme for the promotion of high-efficiency cogeneration on the basis of useful heat demand, with subsequent amendments and completions, were applied in the first half of 2021 and between November 29th and December 31st, 2020.

By means of **ANRE Order no. 39/2021**, the following reference bonuses were approved for the **period July-October of 2021**, related to the 11th year of awarding:

- **224.82 RON/MWh** for plants that mainly use natural gas from the transmission network, with commissioning until 01.01.2016;
- **228.06 RON/MWh** for plants that mainly use natural gas from the transmission network, with commissioning after 01.01.2016;
- **238.20 RON/MWh** for plants that mainly use natural gas from the distribution network, with commissioning until 01.01.2016;
- **241.86 RON/MWh** for plants that mainly use natural gas from the distribution network, with commissioning after 01.01.2016;
- **429.85 RON/MWh** for plants that mainly use solid fuel.

These bonuses, in accordance with the provisions of Article 10(5^1) of GD no. 1215/2009 on the establishment of the criteria and conditions necessary for the implementation of the support scheme for the promotion of high-efficiency cogeneration on the basis of useful heat demand, with subsequent amendments and completions, were applied from July 1st to October 30th, 2021.

By means of **ANRE Order no. 105/2021** on the approval of the values of the **reference bonuses** for electricity generated in high efficiency cogeneration and of the **reference prices for thermal energy** produced in cogeneration, **applicable in 2022**, the bonuses applicable in 2022 were approved, which, in accordance with the provisions of Article 25(3) of GD no. 1215/2009, **have also been applied in the period from November 1st to December 31st, 2021** and have the following values for the 11th year of awarding:

- **352.97 RON/MWh** for plants that mainly use natural gas from the transmission network, with commissioning until 01.01.2016;
- **360.02 RON/MWh** for plants that mainly use natural gas from the transmission network, with commissioning after 01.01.2016;

- **364.95 RON/MWh** for plants that mainly use natural gas from the distribution network, with commissioning until 01.01.2016;
- **372.40 RON/MWh** for plants that mainly use natural gas from the distribution network, with commissioning after 01.01.2016;
- **417.59 RON/MWh** for plants that mainly use solid fuel.

2.1.3. Considerations on the application to date and the prospect of extending the current system of promoting cogeneration

Investments in new cogeneration units totalling an installed electricity capacity of 196 MW (153 MW for SACET and 43 MW for self-producers) have been made during the support scheme since 2011.

The causes that have led to a low interest on the part of investors for investment in cogeneration facilities servicing SACET are summarized as follows:

- state aid to promote the generation of electricity from renewable energy sources was much more attractive and was promoted around the same period, concentrating new investors in the direction of green energy;
- producers in high-efficiency cogeneration benefit from a return on RAB of 9%, considered by investors as insufficient for new investments;
- the bonus is an operational aid that does not impose the need for investments;
- uncertainty regarding the receipts of the heat delivered, given the increasing disconnection, the degree of collection from consumers, the late payment of subsidies from municipalities;
- poor technical state of the transmission and distribution networks, which, due to the high level of losses, leads to high prices for heat delivered through SACET, encouraging alternative heating options;
- advance payment of natural gas bills requested by certain suppliers to producers in cogeneration;
- the financial status of the producers is poor, which does not allow access to loans for the development/modernization/replacement of equipment that would lead to the increase of the quantities of electricity qualified as high efficiency and would lead to the receipt of a higher bonus than the one received based on current installations;
- from the point of view of making the necessary investments to replace non-performing cogeneration capacities with an overall unsatisfactory energy efficiency, it is noted that, while some new or existing producers with private, mixed or state capital have been able to identify investment resources, and the bonus makes it easier to pay loans for these investments, other producers, increasingly fewer, especially those with state capital, due to cash flows marked by large amounts of debt or management reasons, have failed to make investments to replace non-performing capacities. Some of these producers either ceased their activity or became insolvent or are at risk of insolvency. In these cases, the bonus provides only a minimum of resources to ensure the continuity of the public service, without interruptions, until the owners find a financing solution for the necessary investment projects;
- failure to implement commitments of local councils to pay the subsidy to cover the difference between the price of production, transmission, distribution and supply of thermal energy and the price of heat billed to the population.
- We would like to point out that the provisions of the European Commission decision C (2009)7085 granting State aid no. 437/2009-Romania and those of GD no. 1215/2009 establish unequivocally that **the bonus is an operational aid**, with the aim of filling the differences between the costs and revenues of producers in cogeneration, strictly associated with energy produced in high-efficiency cogeneration. This type of

state aid does not require investments, but creates the premises for recovery of the costs of investments made, if the operators' activity is not encumbered by deficient cash flows caused by non-collection, or maintaining tariffs for the sale of thermal energy to final consumers below costs.

It is reiterated that, in accordance with the provisions of Article 7 (1) and (1^1) of GD no. 1215/2009, with subsequent amendments and completions, the support scheme shall apply only to cogeneration electricity and thermal energy producers applying to ANRE for such support for electricity generated in high-efficiency cogeneration for cogeneration capacities listed in the list referred to in Article 9(4) by 31.12.2016, as well as for new cogeneration capacities, which replace existing cogeneration capacities after 31.12.2016, which received the bonus for high efficiency electricity, within the limit of the installed electricity capacity entered on 31.12.2016 in the list referred to in Article 9(4), for each beneficiary producer of the support scheme.

In 2020, the Ministry of Energy initiated the pre-notification to the European Commission of the extension by 10 years of the current state aid for high efficiency cogeneration, activity in which specialists from ANRE were also co-opted, as members of a working group. On this occasion, the representatives of the European Commission reiterated the provision of European legislation, also included in GD no. 1215/2009, with subsequent amendments and completions, prohibiting the granting of state aid to companies in financial difficulty. Several cogeneration thermal energy producers that deliver heat to major urban centres find themselves in this situation, including S.C. Electrocentrale București S.A.

By means of Decision C(2021) 9774 - final version, in December 2021, the European Commission approved State aid no. 57969 (2021/N) – amendment SA N 437/2009 and SA 45976 (2016/N), according to which, producers of electricity and heat in high-efficiency cogeneration may request the extension of the period of application of the support scheme to promote high-efficiency cogeneration on the basis of useful heat demand. The extension of the state aid can only be accessed by those producers who are not in difficulty, in accordance with the conditions laid down in point 20 of the Communication from the European Commission (2014/C 249/2001).

2.2. Data on capacities, energy generation, fuel consumption and primary energy savings, for the generation of electricity and thermal energy in cogeneration in Romania

On the basis of 2020 operational data, submitted in 2021 by producers operating cogeneration units (regardless of whether or not the units in question benefit from the cogeneration bonus), in accordance with the provisions of Article 13(3) of *GD no. 219/2007 on the promotion of cogeneration based on useful heat demand*, with subsequent amendments and completions, the following have been assessed:

- *Electricity and heat production* in cogeneration, based on the calculation method set out in Annex II to Directive 2004/8/EC (currently replaced by Annex I – D2012/27/EU) – (Table II);
- *(Electrical/thermal) cogeneration capacities* (Table III);
- *Quantities of fuel* (Table IV) and
- *Quantities of electricity generated in high-efficiency cogeneration and the primary energy savings obtained using high-efficiency cogeneration*, as determined in accordance with Annex III to Directive 2004/8/EC (currently replaced by Annex II – D2012/27/EU) – (Table V).

Table II - National electricity and thermal energy production in cogeneration

Year	Total electricity generated in cogeneration units	Electricity generated in cogeneration (Annex II-D2004/8/EC replaced by Annex I – D2012/27/EU)		Electricity generated in cogeneration from total national production	Useful heat energy produced in cogeneration units (Annex II-D2004/8/EC replaced by Annex I-D2012/27/EU)	
		Total	of which Self-producers		Total	of which Self-producers
	TWh	TWh	%	%	PJ	%
2007	14.23	6.62	14.65	10.7	73.2	15.85
2008	14.06	6.21	15.62	9.6	71.5	18.04
2009	12.33	6.26	13.74	10.8	66.3	17.50
2010	11.93	6.54	17.74	10.8	69.0	22.46
2011	13.47	7.28	17.45	11.9	71.9	23.50
2012	12.54	6.72	16.07	11.4	66.1	22.37
2013	11.1	6.6	18.78	11.3	57.9	21.99
2014	10.7	6.1	19.38	9.4	55.4	21.86
2015	9.2	5.6	16.07	8.5	51.0	18.43
2016	8.9	5.29	10.78	8.2	45.9	13.07
2017	8.91	5.79	12.96	9.1	47.0	11.17
2018	7.91	5.39	13.92	8.4	42.2	10.80
2019	7.29	5.11	16.79	8.6	39.2	17.07
2020	6.72	4.64	19.42	8.3	35.43	19.13

Table III - Electrical and thermal capacities of cogeneration in Romania in 2020

Cogeneration technology	Maximum capacity	
	Electricity	Thermal energy
	Gross	Net
	MW	MW
Combined cycle TG with thermal energy recovery	283	313
TG with thermal energy recovery	108	139
Internal combustion engines	173	153
Counter pressure TA	636	2646
Condensation TA with cogeneration sockets	2015	3587
Other cogeneration technologies	3	10
TOTAL	**3218**	**6848**

Table IV - Quantities of fuel used for the production of electricity and thermal energy in cogeneration

Year	Total fuel used by cogeneration units	Fuel used for cogeneration (Annex II-D2004/8/CE replaced by Annex I – D2012/27/EU)	of which:				
			Solid fossil fuel	Fuel oil	Natural gas	Renewables and waste	Other fuels
	PJ	PJ	%	%	%	%	%
2007	221.4	122.8	38.2	8.3	52.8	0.0	0.7
2008	216.8	118.1	39.5	6.3	52.8	0.0	1.4
2009	188.6	112.4	39.8	6.9	49.7	0.5	3.1
2010	186.1	117.3	38.6	3.8	50.8	1.9	4.9
2011	200.3	124.3	38.2	3.5	52.4	2.0	3.9
2012	188.5	114.5	38.4	3.3	53.7	2.0	2.7
2013	159.7	103.6	37.4	0.6	54.6	3.6	3.8
2014	154.1	97.7	36.0	0.5	54.4	5.4	3.7
2015	135.0	90.3	34.9	0.8	54.8	6.4	3.1
2016	128.0	82.2	28.5	1.4	59.8	6.4	3.9
2017	122.9	85.3	24.6	0.3	66.1	5.6	3.4
2018	108.7	77.4	23.4	0.2	67.5	5.7	3.2
2019	100.3	72.6	22.4	0.1	69.2	6.2	2.1
2020	92.6	66.0	21.2	0.1	66.8	7.9	4.0

Table V - Electricity generation in high-efficiency cogeneration and primary energy savings achieved through the use of high efficiency cogeneration

Year	Electricity in high-efficiency cogeneration (Annex III-D 2004/8/EC replaced by Annex II – D2012/27/EU)	Fuel consumption in high-efficiency cogeneration (Annex III-D 2004/8/EC replaced by Annex II – D2012/27/EU)	PES in absolute value (Annex III-D 2004/8/EC replaced by Annex II – D2012/27/EU)	PES (ANNEX III-D 2004/8/EC replaced by Annex II – D2012/27/EU)
	TWh	PJ	PJ	%
2007	4.4	67.9	10.5	13.4
2008	3.7	62.4	9.2	12.8
2009	3.5	49.6	8.2	14.2
2010	3.3	47.5	8.0	14.5
2011	3.4	43.3	8.3	16.0
2012	3.0	36.7	7.2	16.4
2013	4.4	56.9	10.5	15.5
2014	3.3	39.7	8.7	18.0
2015	2.9	34.4	7.7	18.3
2016	2.9	35.1	8.3	19.1
2017	3.5	42.3	9.6	18.5

2018	3.4	39.7	9.3	18.9
2019	3.2	37.0	8.8	19.1
2020	**3.3**	**40.9**	**9.3**	**18.5**

PES – Primary Energy Savings

2.3 High-efficiency cogeneration from renewable energy sources

In 2021, 10 decisions were issued on the qualification of the quantities of electricity generated in high-efficiency cogeneration from renewable energy sources, benefiting from additional green certificates, according to the provisions of Article 6 paragraph (4) of Law no. 220/2008 for establishing the system of promoting the generation of energy from renewable energy sources, republished, with subsequent amendments and completions.

3. ANRE ACTIVITY IN THE FIELD OF THERMAL ENERGY

In accordance with the provisions of the Law on community services of public utilities no. 51/2006, republished, with subsequent amendments and completions, the activities related to production, transmission, distribution and supply of thermal energy are subject to licensing, regulation and control of ANRE from the date of entry into force of Law no. 225/2016 amending and supplementing Law no. 51/2006.

At the same time, according to Art. V par. (4) of Law no. 225/2016:

"(4) Until the elaboration and approval by means of Order of the President of ANRE of the regulations provided by the provisions of Article 14 of the Law on public service of thermal energy supply no. 325/2006, with subsequent amendments, the provisions of the technical and commercial regulations issued by A.N.R.S.C. in the field of the public service of thermal energy supply are applicable".

In accordance with the provisions of the Law on the public service of thermal power supply no. 325/2006, with subsequent amendments and completions (Law no. 325/2006), ANRE has the status of competent regulatory authority for the purposes of this normative act.

By means of Law no. 196/2021 amending and supplementing the Law on the public service of thermal energy supply no. 325/2006, amending paragraph (5) of Article 10 of Law no. 121/2014 on energy efficiency and supplementing paragraph (3) of Article 291 of Law no. 227/2015 on the Fiscal Code, published in the Official Journal of Romania no. 693 of July 13th, 2021, a series of amendments were made to Law no. 325/2006, with subsequent amendments and completions.

In accordance with the provisions of Chapter III, Article 14 paragraph (1) of Law no. 325/2006, ANRE develops, establishes and pursues the application of the set of mandatory regulations at national level, necessary for the functioning of the public service of thermal power supply in centralized system, under conditions of efficiency, competition, transparency and consumer protection.

3.1. Granting of licenses and authorizations in the field of thermal energy

3.1.1. Granting, amendment, suspension or withdrawal of licenses in the field of the thermal energy supply service

The activities specific to the public service of thermal energy supply, for which ANRE grants licenses are: production, transmission, distribution and supply of thermal energy. The activity regarding the granting, amendment, suspension or withdrawal of licenses in the field of the thermal power supply service was carried out on the basis of the Regulation

for the granting of licenses in the field of central heating supply service, approved by means of ANRE Order no. 28/2017.

According to this Regulation, ANRE issues 2 types of licenses related to the public service of centralized heat supply: the license for the provision of the centralized heat supply service (SACET license) and the license for the commercial exploitation of thermal energy production capacities.

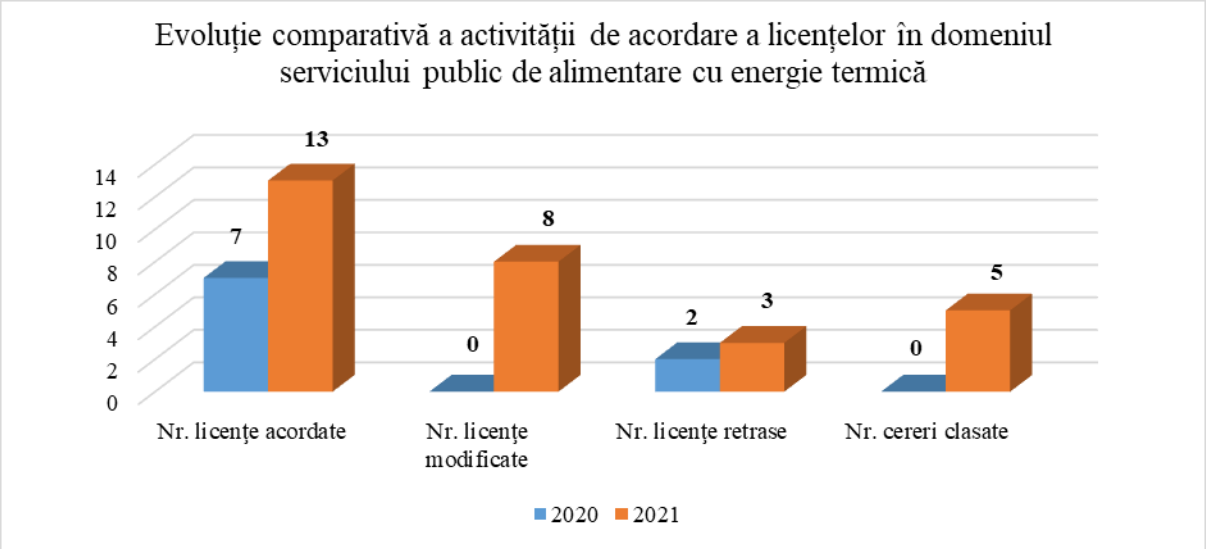
At the beginning of 2022, 42 economic operators holding a SACET license were registered in the ANRE database.

During 2021, the activity of granting/amending/withdrawing the types of licenses listed above is presented statistically in the following table:

Subject matter of license	Number of licenses granted	Number of licenses amended	Number of licenses withdrawn
Central heating supply service	**13**	**8**	**3**

A total of 5 license applications were revoked, as follows:

- 2 applications due to the fact that the applicants have not submitted, within 10 days of the registration of the application, proof of payment of the documentation analysis fee;
- 3 applications due to the failure to submit the complete documentation provided for by the Regulation, within 6 months from the date of registration of the application.



Comparative development of the activity of granting licenses in the field of thermal energy public supply, No. of granted licenses, No. of amended licenses, No. of withdrawn licenses, No. of revoked requests

Based on the above chart, it is revealed that, in 2021, the number of requests for granting, amending, withdrawing licenses in the field of public service for thermal energy supply increased, and these requests were analysed within the specialized departments.

3.1.2. Granting, amendment, suspension or withdrawal of authorizations for the installation and operation of heating and hot water distribution systems in condominium buildings

According to the provisions of *Law 121/2014 on energy efficiency*, with subsequent amendments and completions "*in condominium buildings connected to the central thermal*

power supply system, it is mandatory to install metering systems until December 31st, 2022, to individualize the energy consumption for heating/cooling and hot water at the level of each apartment or space with another purpose for use, other than residential." However, if the use of individual meters **is not** technically feasible or **is not** financially efficient, the law requires **that individual cost allocators be mounted** *"on all heating units in each building unit"*.

According to the provisions of Article V paragraph (4) of *Law no. 225/2016* amending and supplementing the *Law on community services of public utilities no. 51/2006*, with subsequent completions, in conjunction with the provisions of Article 14 of the Law on public service of thermal power supply no. 325/2006, with subsequent amendments, starting with December 2016, the activity of authorizing legal entities that install and operate cost distribution systems in condominium buildings was taken over by ANRE.

Until the date of entry into force of Law no. 225/2016 amending and supplementing the Law on community services of public utilities no. 51/2006, with subsequent completions, this activity was carried out by the *National Regulatory Authority in the field of Community Services of Public Utilities* (ANRSC), according to the provisions of the *Order of the National Regulatory Authority for Public Services of Community Households no. 259/2004* for the approval of the Norms on authorization in the field of installation and operation of cost distribution systems for heating and hot water consumption in condominium buildings, with subsequent amendments and completions.

The authorizations issued by A.N.R.S.C. that expired in 2020-2021 were extended by the effect of Law 55/2020 on certain measures to prevent and combat the effects of the COVID-19 pandemic, with subsequent amendments and completions, until June 7th, 2022.

The legal framework for granting authorizations for the installation and/or operation of systems for the distribution of costs for heating and hot water consumption in condominium-type buildings was represented by means of ANRE Order no. 53/2017, amended and supplemented by ANRE Order no. 23/2021.

According to this Regulation, ANRE issues the following types of authorizations:
- Type I - for the development of the installation of heating cost distribution systems;
- Type II - for the operation of heating cost distribution systems;
- Type III - for the installation of hot water meters used as cost allocators;
- Type IV - for the operation of hot water meters used as cost allocators.

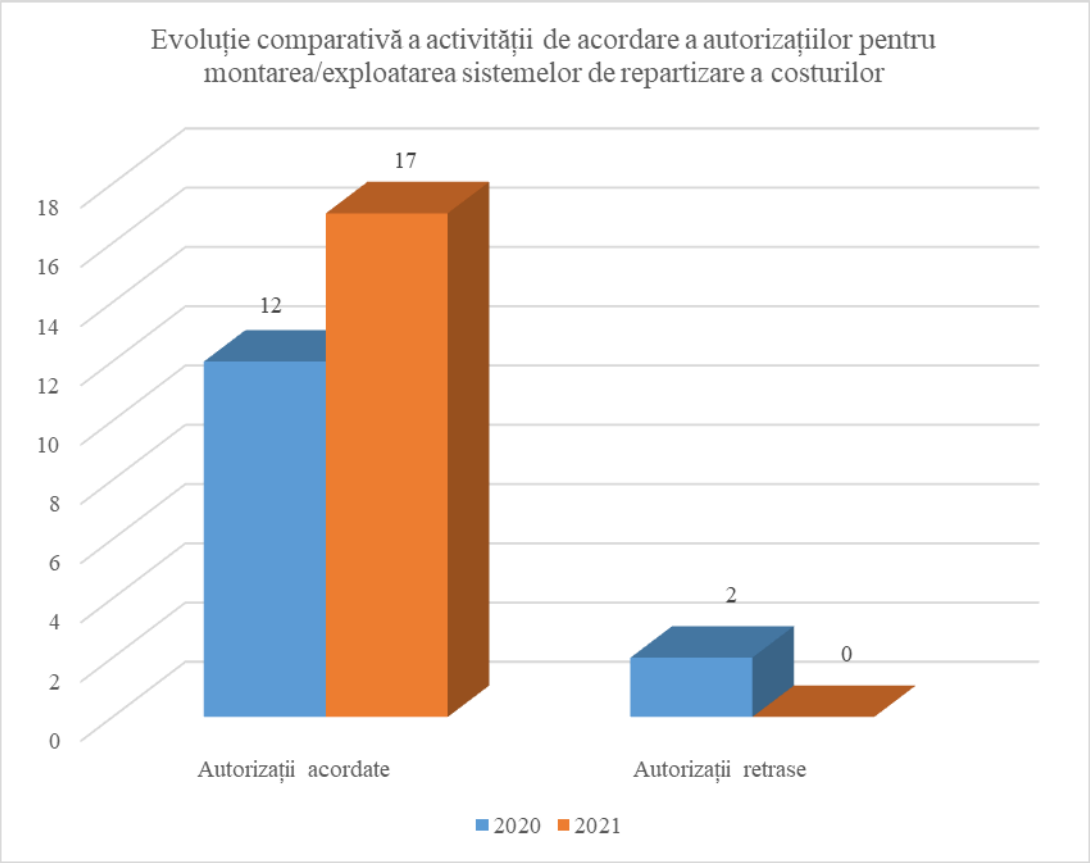
For 2021, the status of granting/withdrawing the types of authorizations listed above is statistically presented as follows:

Permits	Granted	Withdrawn
Type I - for the installation of heating cost distribution systems	**5**	**0**
Type II - for the operation of heating cost distribution systems	**5**	**0**
Type III - for the installation of hot water meters used as cost allocators	**4**	**0**
Type IV - for the operation of hot water meters used as cost allocators	**3**	**0**
TOTAL	**17**	**0**

The list of authorized economic operators carrying out activities related to installation and operation of cost distribution systems can be found on the ANRE website, under the section "Energie termică/Informații de interes public/Lista operatorilor economici care desfășoară activități de montare și exploatare a sistemelor de repartizare a costurilor pentru încălzire și apă caldă de consum" (Thermal energy / Information of public interest / List of economic operators carrying out activities of installation and operation of heating and hot water for consumption cost distribution systems). It contains useful information on the type

of authorizations held by these legal entities, the type of distributions installed/operated, authorization data (date of issue, expiry date), contact details.

At the end of 2021, 21 legal entities were registered in the ANRE database, which held a number of 49 authorizations valid throughout Romania (for the type of activities specified in the register), and a total of 16 authorisations were valid locally at certain points specified in their content. The total number of 65 valid authorizations as of 31.12.2021 was divided per types of activities, as follows: 21 Type I authorizations, 23 Type II authorizations, 11 Type III authorizations, 10 Type IV authorizations.



Comparative development of the activity of granting authorisations for the installation/exploitation of cost allocation systems, Granted authorisations, Withdrawn authorisations

From the chart above, it is revealed that, in 2021, the number of applications for authorizations for mounting/operating cost distribution systems increased.

In 2021 there were no cases of withdrawal of authorizations.

In accordance with the provisions of ANRE Order no. 53/2017 approving the Regulation for the authorization of legal entities carrying out activities of mounting and operating systems for the distribution of costs for heating and hot water consumption in condominium buildings, with subsequent amendments, authorized legal entities had to comply with reporting obligations until April 15th, for the activity carried out between October 1st, 2020 and March 31st, 2021.

The results consolidated at national level for 2021, based on the reports received from authorized legal entities, are presented together in table and graph form, as follows:

2. **Systems for the distribution of heating costs in condominium-type buildings, in the operation of the permits' holders**:

Distribution of heating costs, in the case of vertical distribution, in operation							
Crt. No.	**Locality**	**Total number of metered condominiums**	**Total number of home owners associations benefiting from cost allocators**	**Total apartments in condominiums where cost allocators were installed**	**Total apartments connected to SACET or powered from own local heat sources at building entrance/building level**	**Total number of apartments where heating cost allocators are fitted**	**Total operated heating cost allocators**
1	Arad	652	610	17,080	9,094	9,026	30,612
2	Bacău	681	137	15,356	7,528	5,698	17,250
3	Bârlad	4	3	161	159	158	684
4	Botoșani	534	37	8,420	4,920	4,773	13,384
5	Brad	12	12	278	129	129	340
6	Brașov	46	46	2,549	1,201	1,201	2,288
7	Brăila	1	1	100	100	100	108
8	Bucharest	6,072	3,576	233,509	208,743	204,955	786,741
9	Buzău	1	12	20	251	251	713
10	Cluj Napoca	315	315	11,121	5,690	5,689	18,645
11	Constanța	585	211	20,538	16,853	12,861	45,860
12	Craiova	1,343	707	30,380	20,727	19,304	71,088
13	Deva	4	4	23	23	23	58
14	Drobeta Turnu Severin	740	404	14,046	11,216	11,011	39,044
15	Făgăraș	80	33	2,439	1,071	1,071	2,931
16	Fieni	1	1	32	28	28	119
17	Focșani	149	65	3,166	1,179	1,164	4,413
18	Galati	16	16	1,507	969	969	1,467
19	Gheorgheni	20	20	373	303	303	1,267
20	Giurgiu	26	23	449	239	237	843
21	Iași	961	639	26,715	12,220	12,056	35,310

Distribution of heating costs, in the case of vertical distribution, in operation							
Crt. No.	**Locality**	**Total number of metered condominiums**	**Total number of home owners associations benefiting from cost allocators**	**Total apartments in condominiums where cost allocators were installed**	**Total apartments connected to SACET or powered from own local heat sources at building entrance/building level**	**Total number of apartments where heating cost allocators are fitted**	**Total operated heating cost allocators**
22	Luduș	2	2	34	33	33	118
23	Mangalia	15	15	385	226	226	965
24	Miercurea Ciuc	1	1	46	35	35	148
25	Nădlac	8	7	111	69	69	285
26	Odorheiul Secuiesc	27	27	369	363	363	1,454
27	Oradea	385	197	8,973	8,596	8,448	34,937
28	Pitești	92	55	3,399	1,851	1,833	6,259
29	Ploiești	758	529	24,325	20,005	19,917	74,754
30	Predeal	2	2	75	71	71	431
31	Rădăuți	254	0	4,780	3,366	3,211	11,127
32	Râmnicu Vâlcea	68	42	1,929	1,551	1,505	4,090
33	Roșu	1	1	56	56	56	219
34	Sinaia	2	2	40	40	40	176
35	Suceava	606	93	12,741	5,063	5,018	17,142
36	Târgu Mureș	1	1	25	24	24	102
37	Timișoara	284	280	7,416	4,922	4,919	17,127
38	Tulcea	86	59	1,940	1,311	943	3,835
TOTAL		**14,835**	**8,185**	**454,906**	**350,225**	**337,718**	**1,246,334**

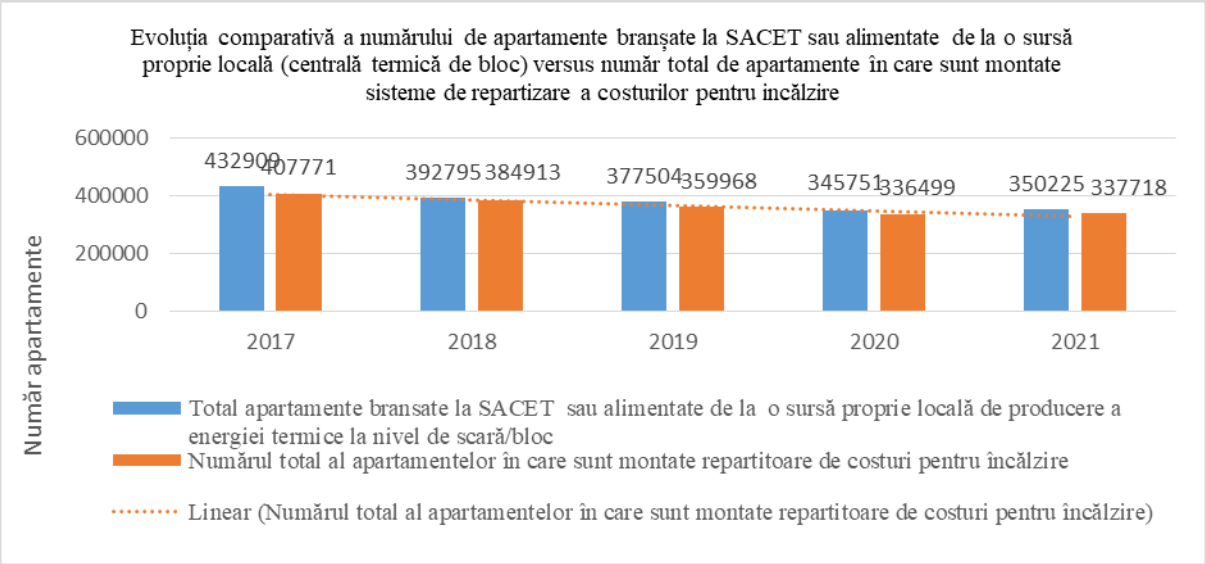
3. Heating meters in operation in the case of horizontal distribution

Heating meters in operation in the case of horizontal distribution							
Crt. No.	**Locality**	**Total number of metered condominiums**	**Total number of home owners associations benefiting from cost allocators**	**Total apartments in condominiums where cost allocators were installed**	**Total apartments connected to SACET or powered from own local heat sources at building entrance/building level**	**Total number of apartments where heating cost allocators are fitted**	**Total operated heating cost allocators**
1	Bragadiru	1	1	40	39	39	39
2	Brașov	8	8	269	268	268	278
3	Bucharest	16	12	329	320	281	286
4	Cluj Napoca	9	9	115	111	111	113
5	Făgăraș	17	0	257	220	220	220
6	Giurgiu	1	1	19	6	6	7
7	Iași	1	1	19	10	10	10
8	Odorheiul Secuiesc	2	2	48	48	48	48
9	Oradea	29	29	2,351	2,351	2,351	2,382
10	Râmnicu Vâlcea	12	7	233	114	114	120
11	Sinaia	1	1	171	171	171	171
12	Timișoara	3	3	125	125	125	127
13	Voluntari	1	1	7	7	7	8
TOTAL		**101**	**75**	**3,983**	**3,790**	**3,751**	**3,809**

4. Hot water meters used for cost allocation in condominium-type buildings operated by permit holders

Hot water meters used for cost allocation, in operation							
Crt. No.	**Locality**	**Total number of metered condominiums**	**Total number of home owners associations benefiting from hot water meters**	**Total number of home owners associations benefiting from hot water meters**	**Total apartments connected to SACET or powered from own local heat sources at building entrance/building level**	**Total number of apartments in which hot water meters are installed**	**Total hot water meters used for cost allocation, in operation**
1	Arad	264	247	8,610	7,337	5,388	8,595
2	Brașov	25	25	1,398	1,398	534	710
3	Bucharest	3,825	3,161	153,049	146,374	136,502	269,886
4	Cluj Napoca	41	41	1,736	1,736	958	1,605
5	Constanța	95	58	3,623	3,121	1,686	2,167
6	Craiova	103	54	2,259	1,902	1,508	2,470
7	Făgăraș	40	33	795	585	585	780
8	Fieni	1	1	32	32	29	58
9	Focșani	2	2	39	39	30	39
10	Iași	123	117	3,242	2,979	1,329	2,082
11	Mangalia	2	2	331	331	4	5
12	Miercurea Ciuc	1	1	46	46	44	48
13	Oradea	206	203	7,398	7,392	7,335	10,127
14	Pitești	4	4	182	175	118	221
15	Ploiești	707	599	21,984	20,412	18,126	31,765
16	Predeal	1	1	14	13	10	19
17	Suceava	3	3	70	43	43	73

Hot water meters used for cost allocation, in operation							
Crt. No.	**Locality**	**Total number of metered condominiums**	**Total number of home owners associations benefiting from hot water meters**	**Total number of home owners associations benefiting from hot water meters**	**Total apartments connected to SACET or powered from own local heat sources at building entrance/building level**	**Total number of apartments in which hot water meters are installed**	**Total hot water meters used for cost allocation, in operation**
18	Timișoara	175	172	5,956	5,805	3,737	6,080
19	Tulcea	17	17	166	166	99	145
20	Voluntari	1	1	7	7	7	7
TOTAL		**5,636**	**4,742**	**210,937**	**199,893**	**178,072**	**336,882**



Comparative development of the number of apartments connected to SACET or supplied from own local sources (building central heating) versus number of total apartments in which heating cost allocation systems are installed

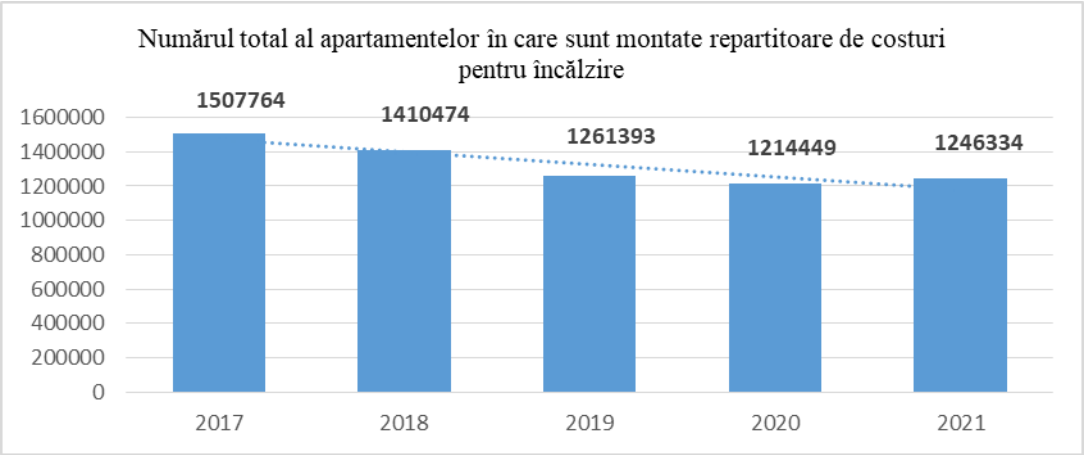
From the above chart, it is revealed that, in 2021, the total number of apartments connected to SACET or supplied from local own sources for the production of thermal energy at entrance/building level, in which heating cost allocators are installed, increased compared to 2020, by approx. 2%.

Taking into account the provisions of Art. 10 para. (6) of Law no. 121/2014 on energy efficiency, with subsequent amendments and completions:

"(6) In condominium-type buildings connected to the centralized system or equipped with a local own source of heat production at entrance/building level, the distribution of heat consumption for heating/cooling and/or hot water shall be made on the basis of technical rules developed by the competent authority. The rules shall include arrangements for the distribution of the related heat consumption:

(a) hot drinking water;
(b) heating of common spaces;
c) heating of apartments and spaces with another use purpose from the condominium."

Although there is legislation that establishes the obligation to introduce metering and sub-metering (Law no. 121/2014 on energy efficiency, with subsequent amendments and completions), as well as legislation for the application of sanctions for non-compliance by users with the deadlines for concluding the individual metering action at apartment level (Law no. 51 of March 8th, 2006, republished, with subsequent amendments and completions), the individual metering action did not show significant progress. The development of the number of apartments in which heating cost distribution systems are installed is presented in graph form.

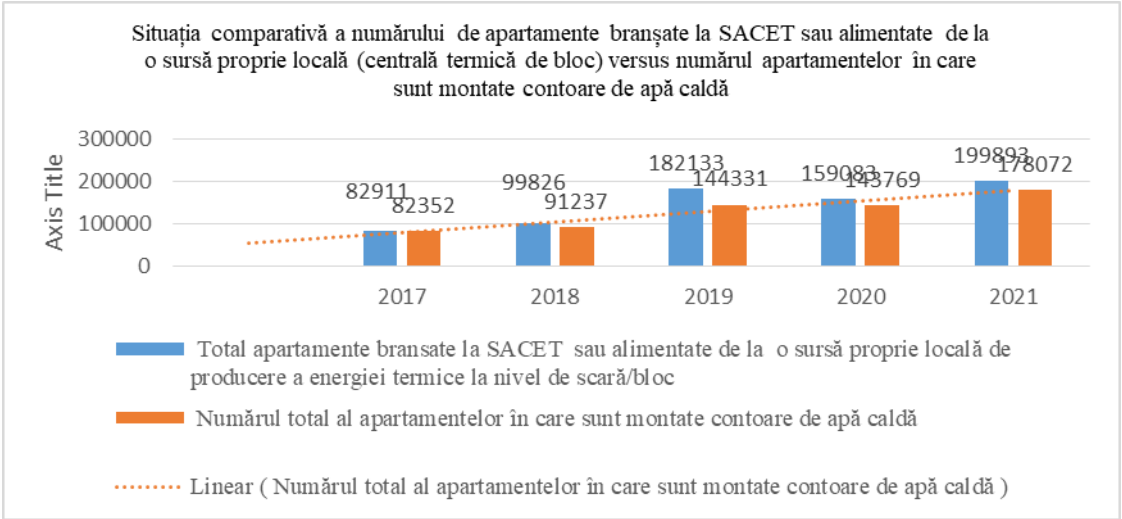


Total number of apartments in which heating cost allocators are installed

In 2021, approx. 97% of the total number of apartments connected to SACET or powered from a local source had heating cost distribution systems.

From the chart above, it is revealed that there is a slight trend toward an increase in the number of heating cost distribution systems in operation.

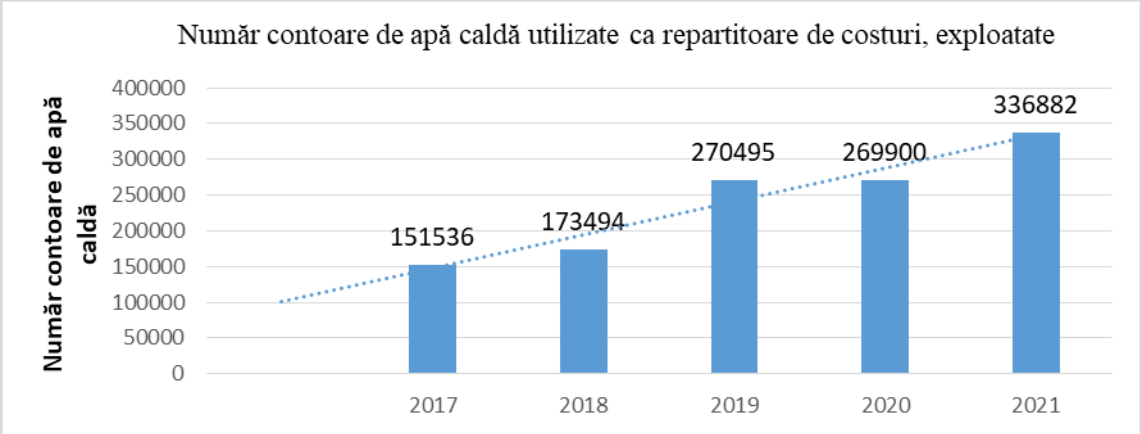
Regarding the status of hot water meters, there is an upward trend of consumers who choose to install such equipment (according to the graph below).



Comparative report on the number of apartments connected to SACET or supplied from an own local source (building central heating) versus the number of apartments in which heat

meters are installed, Total apartments connected to SACET or supplied from a local electricity generation source at entrance/building level, Total number of apartments in which hot water meters are installed, Linear (Total number of apartments in which hot water meters are installed)

In 2021, of the total apartments connected to SACET, 90% of them have hot water meters installed.



Number of hot water meters used as cost allocators, in use, Number of hot water meters

The activity of mounting and operating hot water meters recorded an upward trend in the period 2017-2021.

3.2. Approval of local prices/tariffs for the production/transmission/distribution/supply of thermal energy, namely pre-approval of energy balance documentation, in order to approve the technological losses related to thermal energy

I. In accordance with the provisions of Article 8 (3) (k) and Article 43 (5) of the Law on community services of public utilities no. 51/2006, republished, with subsequent amendments and completions (Law no. 51/2006), local prices/tariffs related to the public service of central heating supply are approved by the local public administration authorities, under the special law and in compliance with the methodologies issued by the competent regulatory authority.

Law no. 325/2006, provides in Art. 40 par. (3), (4), (8) and (11) the following:

"(3) For the activity of producing heat in thermal power plants, intended for SACET, and for the services of transmission, distribution and supply of heat by SACET, prices and tariffs shall be established, adjusted or amended by the administrative-territorial authorities, at the request of the operators, with the pre-approval of the competent regulatory authority, based on methodologies developed by the competent regulatory authority.

(4) The local price, consisting of the price of heat production and the tariffs of transmission, distribution and supply services shall be established, adjusted or modified at the request of the operators of the public service of heat supply, with the pre-approval of the competent regulatory authority, by means of decisions of the administrative-territorial authorities, based on the methodology developed by the competent regulatory authority.

[...]

(8) For heat produced in thermal power plants and for heat transmission, distribution and supply services, in cases where, for the purpose of delegating service management, management delegation contracts negotiate formulas or rules for setting/adjusting the

related price(s), they are approved by means of decision of the administrative-territorial units, with the pre-approval of the competent regulatory authority.

[...]

(11) If, after adjusting prices and tariffs, fuel and electricity suppliers change delivery prices, with the effect of increasing the price of heat produced, local government authorities or community development associations, as the case may be, approve the appropriate recalculation of local prices and, where appropriate, the local prices for the population, with the pre-approval of the competent regulatory authority, from the date of the first delivery made at the new prices, without changing the level of costs of the other items of expenditure and the profit share, in accordance with the provisions of the methodology approved by the competent authority, which has the right to provide for insensitivity thresholds and adjustment periodicity."

II. In the Official Journal no. 693/13.07.2021, Law no. 196/2021 amending and supplementing the Law of the public service of thermal power supply no. 325/2006 was published, amending paragraph (5) of Article 10 of Law no. 121/2014 on energy efficiency and supplementing paragraph (3) of Article 291 of Law no. 227/2015 on the Fiscal Code (Law no. 196/2021).

According to the provisions of art. VII of Law no. 196/2021, *"Until the elaboration and approval by means of Order of the President of the National Energy Regulatory Authority of the normative acts provided for in Article 14 of Law no. 325/2006, with subsequent amendments, as amended and supplemented by this law, the provisions of the technical and commercial regulations issued by the National Regulatory Authority for Community Public Utility Services in the field of public thermal power supply service shall apply."*

With the entry into force of Law no. 196/2021, all the legal conditions have been fulfilled, in order to ensure the exercise by ANRE of:

- the attribution/competence of approval of local prices/tariffs for the production/transmission/distribution/supply of thermal energy;
- the attribution/competence to grant pre-approval in what concerns the documentation referred to in Article 40 paragraph (3) of Law no. 325/2006;
- the attribution/competence for the elaboration of technical and commercial regulations in the field of public service of thermal power supply in centralized system, provided by Law no. 325/2006.

The pre-approval by ANRE of the prices for the activity of producing thermal energy in thermal power plants, intended for SACET, and of the tariffs for the services of transmission, distribution and supply of thermal energy through SACET was made based on the *Methodology of establishment, adjustment or modification of local prices and tariffs for public services of centralized heat supply, excluding heat produced in cogeneration,* approved by means of ANRSC Order no. 66/2007 (Methodology).

Thus, between July and December 2021, ANRE issued 15 notifications for setting/adjusting/modifying local prices/tariffs related to the public service of central heating supply (based on the Methodology), for: S.C. RAM TERMO VERDE S.R.L. Buzău, S.C. GOSCOM S.A Miercurea Ciuc, S.C. GOSCOM Vaslui S.A, S.C. TERMO CALOR CONFORT S.A. Pitești, S.C. THERMOENERGY GROUP S.A. Bacău, S.C. TERMOFICARE NAPOCA S.A, Serviciul Public Centrale Termice şi Administrare Fond Locativ din cadrul Primăriei Municipiului Călăraşi, S.C. TERMO URBAN Craiova S.R.L.,

S.C. CET HIDROCARBURI S.A. Arad, GOLDTERM Mangalia S.A, Serviciul Public de Alimentare cu Energie Termică în Sistem Centralizat în Municipiul Făgăraș, ENERGOTERM Tulcea, Compania de Utilități Publice S.A. Bârlad, S.C. TRANSGEX S.A. and S.C. URBANA S.A. Odorheiu Secuiesc.

III. Until the amendment of Law no. 325/2006 in accordance with Law no. 51/2006, there were no express provisions in the legislation regarding the attribution / competence of ANRE for the pre-approval of local prices / tariffs related to the public service of thermal power supply in the centralized system.

Thus, until the date of entry into force of Law no. 196/2021, upon request and in order to support the decision-making process carried out at the level of the local public administration authorities involved, ANRE has submitted 2 specialized points of view regarding the establishment/adjustment/modification of local prices/tariffs related to the public service of thermal power supply in centralized system (based on the Methodology), for: S.C. RAM TERMO VERDE S.R.L. Buzău and S.C. THERMONET S.R.L. Suceava.

Also, ANRE issued 3 notifications for documentation regarding technological losses used in the calculation of heat energy prices and tariffs (beneficiaries: the municipal thermal power company Compania Municipală Termoenergetica București, UTP Giurgiu and Termica Brad), 2 specialized points of view (beneficiaries Termoficare Oradea and Thermonet Suceava) and over 15 letters with observations and requests for clarification/correction regarding the thermal energy balance works in SACET (from 11 operators).

3.3. Issuance of technical notifications on energy efficiency under the district heating program

Applicable legal basis:

- ✓ Emergency Ordinance no. 53/2019 on the approval of the multiannual investment financing program for the modernization, rehabilitation, refurbishment and extension or establishment of the district heating supply systems of localities and for the amendment and completion of the Law on community public utilities services no. 51/2006 (hereinafter, GEO no. 53/2019);
- ✓ ANRE Order no. 13/2020 for the approval of the Regulation for issuing technical notifications on energy efficiency within the framework of the district heating program.

Pursuant to GEO no. 53/2019, the following technical notifications were issued throughout 2021 by ANRE:

Technical notifications

Crt. No.	Beneficiary of the technical notification	Name of the project	ANRE notification no.
1.	The City Hall of Suceava	Deviation of district heating pipes - transmission networks 2 x DN 700 Apeductului Street in Suceava	1/2021
2.	The City Hall of Giurgiu	Thermal network south link network (N-C-S)	7/2021

The total value of the investments related to the 2 new projects approved by ANRE in 2021 is RON 10,428,729.07, and the primary energy savings, namely the reduction of CO_2

emissions estimated to be obtained through the implementation of these projects relate to 828.56 tep/year, namely 1930.56 tCO_2/year.

The requests for technical approval for 3 projects submitted by the City Hall of Arad, the City Hall of Botoşani and the City Hall of Bacău were not favorably solved. The City Hall of Arad and the City Hall of Botoşani did not respond to ANRE requests for correction/completion/modification of the technical documentation, in accordance with the legal provisions in force. The City Hall of Bacău withdrew its request for the issuance of the technical notification, in order to update its feasibility study.

Notifications for the supplementation of issued technical notifications

The City Hall of Cernavodă requested the issuance of supplementation notifications for 2 technical notifications issued by ANRE. Requests for technical notification of supplementation have not been resolved favorably, as the City Hall of Cernavodă did not respond to ANRE requests for correction/completion/modification of the technical documentation, in accordance with the legal provisions in force.

3.4. Monitoring of public heat supply services in the centralized system

By means of ANRE Order no. 193/2019, the *Methodology for monitoring the public service of thermal power supply in centralized system and the heating and/or urban cooling systems (Methodology)* was approved.

The *Methodology* shall set out the parameters used in the monitoring of the public heat supply service (SPAET) and of the district heating and/or cooling systems, as well as the obligations of the economic operators in the heat sector with regard to the reporting of monitoring data, and shall also set out, in principle, analyses and reports conducted by ANRE based on monitoring data received from economic operators.

Through the activity of monitoring SPAET, ANRE aims to achieve the following objectives:

- analysis of the development of SACET at local, regional and national level;
- assessment of the results achieved by the SPAET operators and methods of fulfilling the specific obligations/tasks;
- development of the SPAET specific database;
- reporting on the status of SPAET.

Throughout 2021, SPAET operators and related independent thermal energy producers were monitored; they sent to ANRE data on the activity carried out at the level of 2020, according to the provisions of the *Methodology*.

On the basis of the monitoring data, the "Report on the state of the public heat supply service in the centralized system for 2020" (Report) was drawn up in accordance with Article 14(2) of the *Methodology*. The report can be viewed/downloaded at/from the following address:
https://www.anre.ro/ro/energie-electrica/legislatie/serviciul-public-de-alimentare-cu-energie-termica/raport-privind-starea-serviciului-public-de-alimentare-cu-energie-termica-in-sistem-centralizat-pentru-anul-2020-ro

The table below shows the economic operators monitored in 2020:

Region	County	Locality	SPAET operators	Independent thermal energy producers

Region	County	Locality	SPAET operators	Independent thermal energy producers
North-East Region	Suceava	Suceava	Thermonet SRL	Bioenergy Suceava SA
		Rădăuți	Servicii Comunale SA	
		Vatra Dornei	Vatra Dornei Municipality	
	Bacău	Bacău	Thermoenergy Group SA	
	Botoșani	Botoșani	Modern Calor SA	
	Iași	Iași	Veolia Energie Iași SA	
	Vaslui	Vaslui	Goscom Vaslui SA	
		Bârlad	Compania de Utilitati Publice SA	
North-West region	Bihor	Oradea and Com. Sânmartin	Termoficare Oradea SA	Transgex SA
		Beiuș	Transgex SA	
	Cluj	Cluj-Napoca	Termoficare Napoca SA	Colonia Cluj-Napoca Energie S.R.L.
		Huedin	Paulownia Green International SRL	
South - West region	Dolj	Craiova	Termo Craiova SRL	Societatea Complexul Energetic Oltenia SA
	Mehedinți	Drobeta Turnu Severin	SPAET Drobeta Turnu Severin	
	Gorj	Motru	UATAA Motru SA	
	Vâlcea	Râmnicu Vâlcea	CET Govora SA	
		Băile Olănești		
		Călimănești		
		Horezu	Reimar Construct SRL	
South - East region	Buzău	Buzău	Regia Autonomă Municipală RAM Buzău	
		Nehoiu	Termo Prest Pon Nehoiu SRL	
	Constanța	Constanța	R.A.D.E.T. Constanța	Societatea Electrocentrale Constanța SA
		Mangalia	Goldterm Mangalia SA	
		Cernavodă	Utilităţi Publice Cernavodă SRL	Societatea Națională Nuclearelectrica SA
		Năvodari	Termica Distribuţie Năvodari SRL	Uzina Termolectrică MIDIA SA
	Galați	Galați	Calorgal SA	
	Tulcea	Tulcea	Energoterm SA	
	Vrancea	Focșani	ENET SA	

Region	County	Locality	SPAET operators	Independent thermal energy producers
		Panciu	D.U.S.P.I. SERV Panciu S.R.L.	
South region	Prahova	Ploiești	Veolia Energie Prahova SRL	
	Giurgiu	Giurgiu	Uzina Termoelectrica Production Giurgiu SA	S.C. Electro Energy Sud SRL
	Călărași	Călărași	SPCTAFL	
		Lehliu Gară	D.G.C.L.	
	Argeș	Pitești	Termo Calor Confort SA	
		Mărăcineni		
West Region	Hunedoara	Brad	Termica Brad SA	
		Deva	Societatea Complexul Energetic Hunedoara SA – Sucursala Electrocentrale Deva	
	Arad	Arad	CET Hidrocarburi SA	S.C. CET ARAD SA
		Nădlac	Apoterm Nădlac SA	
	Timiș	Timișoara	Compania Locală de Termoficare Colterm SA	
Central region	Brașov	Brașov	SPLT Brașov	Bepco SRL
		Făgăraș	Ecoterm SA+SPAET	
	Sibiu	Sibiu	Urbana SA	
	Covasna	Întorsura Buzăului	Serviciul public de alimentare cu energie termică	
		Sfântu-Gheorghe	Urban-Locato	
	Harghita	Odorheiu Secuiesc	Urbana SA	
		Miercurea Ciuc	Goscom SA	Poligen Power Energy SRL
		Gheorgheni	SPLT Gheorgheni	
Bucharest-Ilfov region		Bucharest	Compania Muncipală Termoenergetica București SA	CET Grivița SRL
				Vest - Energo SA
				Electrocentrale București SA
	Ilfov	Otopeni	Veolia Energie România SA	

At the end of 2020, 47 SPAET operators were active, operating a number of 50 SACET from 51 localities, located in 28 counties and Bucharest Municipality.

At the level of 2020, the data reported by the SPAET operators resulted in the following indicators:

- **Total thermal capacity installed in plants belonging to SACET: 7,680.41 MW**, of which **4,058.02 MW** represents the thermal capacity of cogeneration and 3,622.39 MW the thermal capacity of separate production of thermal energy. These data do not include the thermal energy generation capacities of independent producers from which the SACET operators bought thermal energy in 2020;

- **Number of thermal power plants belonging to SACET:** 15 cogeneration plants (CET) and 614 own thermal power plants (CT), of which 64 area CT, 288 building CT and 262 building/entrance CT;
- **number of thermal connections: 128,292** existing thermal connections (hot water thermal connections in the transmission system, heating, hot water and steam connections), of which **116,232** are in operation;
- **number of consumers fed from SACET**: **1,131,295,** of which **12,411** are economic operators, **2,308** public institutions and **1,116,576** consumers are residential dwellings (apartments and houses);
- **number of disconnected and reconnected dwellings:** in 2020, in 14 of the 51 localities, there were significant disconnections of dwellings from SACET. The highest disconnection rate was recorded in Buzău (48%), followed by Iași (10%), Arad (8%) and Constanța (5%). At the same time, in 27 of the 51 localities fed from SACET, there were reconnections of dwellings to the centralized system, generally of low values;
- **value of inspections and repairs: 103,271.55 tRON,** representing approx. **69%** of the planned value;
- **status of the investments made in the SACET infrastructure in 2020:** the attracted volumes come from both the state budget, local budgets, and from the operators' own sources (development/modernization quota). The values planned and achieved in each region are shown in the graphs in the report;
- **local price of thermal energy supply:** local prices/tariffs related to the public service of thermal power supply in centralized system are approved by the local public administration authorities, under the special law and in compliance with the methodologies issued by ANRE.

Following the processing of the data and information reported by the SPAET operators, the graphs in the report present, per region, namely locality (SPAET operator), *the development of the local price for the population* in the period 2019-2020.

From the data and information obtained by ANRE in the monitoring process, critical situations were highlighted in certain localities, situation which reflects non-conformities in the fulfilment of the legal duties of ensuring SPAET by the local public administration authorities. Some of these situations relate to:

- significant amounts of claims/liabilities related to the provision of SAET;
- abolition/disappearance of SPAET;
- failure to take over the database on the service provided, upon termination of the management delegation contract.

Also, following the monitoring process carried out by ANRE, the following general issues related to SPAET are highlighted:

- decreasing number of supplied consumers is causing the efficiency of SACET to be reduced. Due to the large number of disconnections (4475 dwellings disconnected in Buzău), many district heating companies simply ceased their activity or went bankrupt, which is the cause of the significant reduction in the number of SPAET operators;
- Substantial losses in terms of transmission and distribution networks (see difference between thermal energy produced and/or purchased - **13,008,681.92** MWh and sold - **8,442,703.14** MWh) lead to high supply prices;
- The low volume of investments and repairs in the SACET infrastructure leads to a lack of continuity in the supply of thermal energy and to a failure to comply with the quality parameters of the supplied heat agent. For example, heat/heat agent loss and the number of technical outages are high, compared to similar size SACETs in other European countries;

- The small number of existing cogeneration plants reveals the need for adequate information at the level of the administrative-territorial unit on the advantages of these sources of production and the use of financial sources made available by the Government through the Heating Program for this purpose. The wider use of cogeneration technologies and centralized heat production systems brings net environmental benefits, due to increased energy conversion, use of waste heat and renewable energy sources. Cogeneration and centralized systems can also serve as flexible tools for building electrical and thermal systems that will play a key role in achieving sustainable integrated networks in the future. These technologies can thus be an important part of the strategy on emission reduction and energy security.

During 2020, amendments and additions were made to the *Methodology*, in the context of the need to simplify ANRE regulations; thus, the new ANRE Order no. 11 of 03.03.2021 for the approval of the Methodology for monitoring the public service of thermal power supply in centralized system and of the heating and/or urban cooling systems was published in the Official Journal no. 242/10.03.2021, with entry into force on July 1st, 2021.

3.5. Resolution of petitions in the field of thermal energy

In view of the provisions of Law no. 225/2016 amending and supplementing the Law on community services of public utilities no. 51/2006, ANRE resolves petitions in the sector of activities related to production, transmission, distribution and supply of thermal energy, as well as those in the field of installation and operation of cost-sharing systems for heating and hot water consumption.

The analysis and formulation of the answers on the issues presented in the petitions is carried out in accordance with the provisions of Government Ordinance no. 27/2002 on the Regulation of the activity of solving petitions, with subsequent amendments and completions.

In 2021, a number of 352 petitions, filed by natural persons and legal entities, beneficiaries / applicants of the services provided by economic operators in the thermal energy sector were registered and solved.

The petitions were submitted for analysis and settlement to ANRE directly, in number of 297, and indirectly, redirected through other public institutions, in number of 55.

The status of petitions addressed indirectly is as follows:

THE STATUS OF PETITIONS REDIRECTED BY OTHER PUBLIC INSTITUTIONS TO ANRE

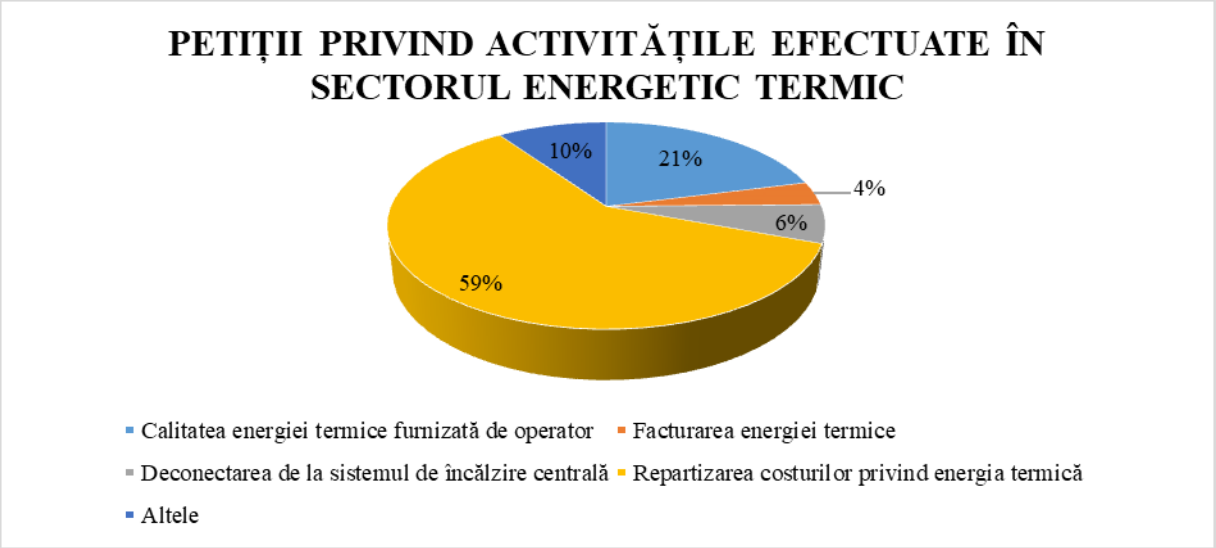
Crt. No.	INSTITUTION	ENERGIE TERMICĂ
1	Presidential Administration	2
2	Chamber of Deputies – Committee on industries and services	1
3	General Government Secretariat	1
4	Ministry for Development, Public Works and Administration	2
5	Ministry of Energy	6
6	NATIONAL Authority for Consumer Protection	6
7	National Regulatory Authority for Community Public Utilities Services	32
8	City hall of Bucharest	1
9	City hall of District 6	2

10	Local Police District 1	2

Based on the main issues that are submitted by the petitioners, a classification of petitions was prepared, in order to identify the legislative provisions that can be modified to improve the services provided to the clients, in order to increase the latter's satisfaction.

MAIN CATEGORIES OF ISSUES IDENTIFIED IN THE PETITIONS SOLVED, IN THE THERMAL ENERGY SECTOR

No. Crt.	MAIN ISSUES RAISED	NUMBER OF PETITIONS	[%]
1	Quality of the thermal energy supplied by the operator	74	21
2	Thermal energy billing	13	4
3	Disconnection from the central heating system	21	6
4	Distribution of heat costs	210	59
5	Others	34	10



Requests regarding activities from the thermal energy sector, Quality of thermal energy supplied by the supplier, Billing of thermal energy, Disconnection from the centralised heating system, Allocation of costs related to thermal energy, Misc

3.6. Regulations specific to the field of centralized heating, according to the applicable legal provisions

In 2021, the provisions of the technical and commercial regulations issued by ANRSC in the field of the public service of thermal power supply in the centralized system were still applicable, but ANRE started the preparatory action, in order to develop new regulations.

Thus, as a result of the provisions of Article III paragraph (2) of Law no. 196/2021, ANRE carried out the process of preparation, analysis, elaboration, public debate and issuance of *Instructions on the principles, content and elaboration of local strategies for the population's thermal power supply service*, approved by means of ANRE Order no. 146 of December 29th, 2021.

The *Instructions* create a unitary framework for developing local strategies for the thermal energy supply of the population in Romania, regarding:

- the principles underlying the strategies, the rules for their preparation and the content thereof;
- the categories of primary information and data necessary for the analysis and assessment of the population's heat supply solutions.

The application of the *Instructions* will lead to:

- unification of the concept of the thermal energy supply strategy of the population, at the level of all administrative-territorial units in Romania;
- creation of favourable premises for the establishment/development of centralized thermal energy supply systems, to ensure a viable, efficient and competitive public service of thermal energy supply to the population in Romania;
- facilitation of the conditions for fulfilling all the obligations of Romania, as a Member State of the European Union, regarding the implementation of efficient urban heating and cooling systems.

In applying the provisions of Article 40 paragraph (3) of Law no. 325/2006, ANRE has developed a first version of the draft *Procedure for the pre-approval of the documentation on technological losses used in the calculation of prices and tariffs of thermal energy, drawn up on the basis of the energy balance in the centralized thermal power supply systems*, which was posted on the ANRE website, for public debate, on November 2nd, 2021.

4. Participation in international events

The National Energy Regulatory Authority (ANRE) participates as a **contractual partner beneficiary of the financing,** starting with June 2021, in a consortium of *28 European partner states*, within the **CA-RES4 project** - *Concerted action* to support the transposition and implementation of Directive 2018/2001/EC *on the promotion of renewable energy sources*, in accordance with **Grant agreement 101035887- CA-RES4 - Consortium Agreement.**

The **CA-RES4** project[28] is a Horizon 2020 program instrument, with the main objective of supporting the transposition and implementation of the **Renewable energy promotion directive**, by creating and strengthening a network of experts to share their knowledge and experience, common approaches and ensure stronger coordination between participating countries. Thus, the European Commission provides technical assistance to Member States for the transposition and implementation of the Directive for the promotion of renewable energy sources by means of the European project CA-RES4.

By means of a concerted action, participating countries exchange experiences and good practices, taking part in a cross-learning process to develop common approaches. The working sessions parallel within the plenary meetings are organized on the basis of **6 thematic groups (Core Theme CT1-CT6[29])** of the CA-RES4 project, namely:

CT1: Governance, target achievement and cooperation

CT2: Electricity from renewable sources

[28] *Concerted Action on the Renewable Energy Directive*

[29] *CT1: Governance, Target achievement and Cooperation, CT2: RES Electricity, CT3: Decarbonising Heating and Cooling, CT4: Biomass Mobilisation and Sustainability, CT5: Decarbonising Transport, CT6: Consumer´s/Citizen engagement*

CT3: Decarbonising of heating and cooling
CT4: Biomass mobilization and sustainability
CT5: Decarbonisation of transport
CT6: Consumer/citizen engagement (in the renewable electricity market)

The project activity started with the first plenary meeting between **November 17th-18th, 2021,** which took place online, due to the global pandemic context, where participants used the opportunity to discuss implementation issues related to the current RES Directive 2018/2001/EU.

In 2021, two online working group meetings were organized in May and November, both of which aimed to support the exchange of experience between ANRE and the Austrian Energy Agency (AEA) in the field of thermal energy and renewable energy sources.

Also, in March 2021, the videoconference "Workshop on Energy Efficiency in District Heating", organized by the Energy Community Secretariat on energy efficiency in district heating, where the evolution of low-carbon renewable projects supported by the EBRD's ReDEWeB program, as well as USAID-funded projects in the energy sector in Serbia were presented, was attended.

VI. MARKET MONITORING

ELECTRIC POWER

1. Monitoring reports

The monthly monitoring reports for the wholesale (PAN) and retail (PAM) electricity market (with Romanian and English versions), containing aggregated and summary data on the functioning of the national electricity system and the electricity market, have been elaborated, as well as information on the rules of operation of the market.

The participants in the electricity market report to ANRE technical data and trading data according to the provisions of the Methodology for monitoring the wholesale electricity market, approved by means of ANRE Order no. 67/2018, and the Methodology for monitoring the retail market, approved by means of ANRE Order no. 167/2019.

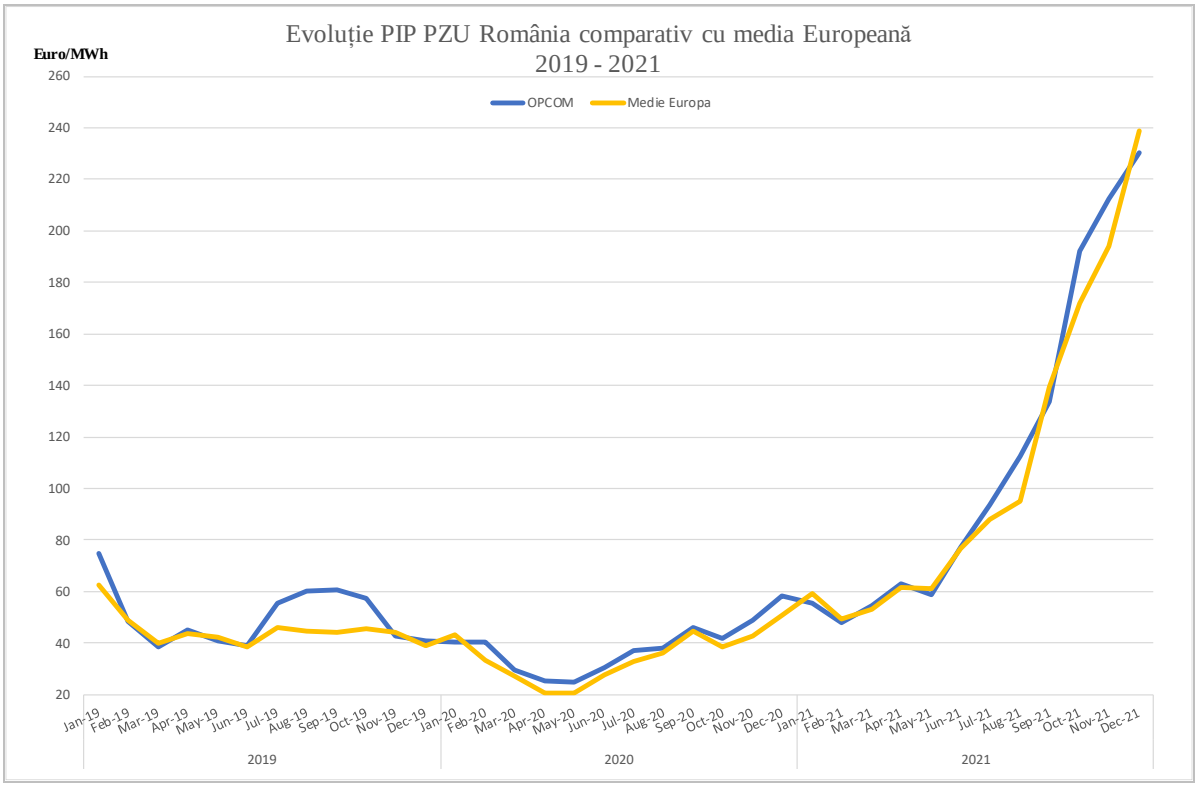
In 2021, ANRE continued to continuously monitor the manner in which the market participants comply with their reporting obligations, according to the monitoring methodologies, the market participants being guided and advised daily, in order to correctly transmit complete and timely data required on the basis of templates/monitoring forms.

2. Specific analysis of the electricity market

Within ANRE, information/analyses were developed regarding the developments found on the electricity market and on the behaviour of certain market participants, used internally and at the level of other institutions, in order to assess identified aspects and take the necessary measures.

One of the main topics dealt with in the analyses carried out by the specialized division of ANRE related to the development of the closing price of the day-ahead market, because the DAM has a high share in Romania's domestic consumption, and PIP represents a reference for prices on term markets.

In the European context, in 2021, PIP DAM Romania was below the European average in the first semester, registering an alternating convergence trend with the former (with lower values in January-February and May-June 2021), however, as of July 2021, it exceeded the European average (except for September and December 2021), with the largest difference being recorded in August, October and November. The development of PIP DAM Romania compared to the European average, starting with January 2019, is presented in the section below.



PIP DAM development in Romania, compared to the European average

Source: Monthly information reported by OPCOM SA – ANRE processing

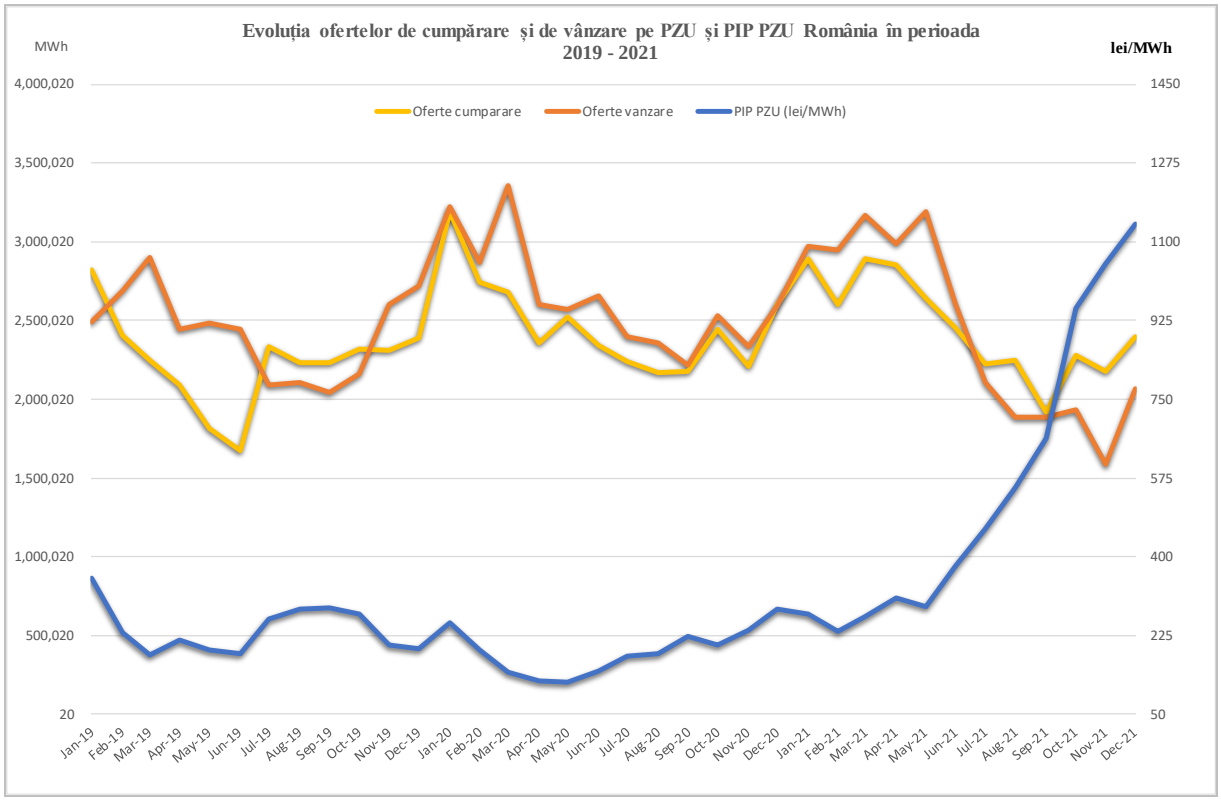
Note: The European average is calculated as the arithmetic average of the average monthly prices recorded on the European exchanges.

In a regional context, DAM operated in conjunction with the spot markets of Hungary, Slovakia and the Czech Republic within the regional 4M MC market until June 17th, 2021. As of June 18th, 2021, the Interim Coupling project became operational, whereby day-ahead markets of the 4M MC regional project were price-coupled with markets in the MRC multi-regional coupling, by means of introducing the default allocation of net transmission capacity (NTC) across 6 new borders (PL-DE, PL-CZ, PL-SK, CZ-DE, CZ-AT, HU-AT), and on October 27th, 2021, the operations of coupling the RO-BG border into the SDAC were completed, thus allowing the connection of the Greek and Bulgarian markets to the SDAC, with the first day of delivery on October 28th, 2021.

As a result of the expansion of the coupling mechanism, the spot markets in the Czech Republic, Slovakia, Hungary and Romania have coupled with those in Poland, Germany, Austria, Bulgaria and Greece, being now part of the pan-European SDAC project.

Nationally, in the first five months of 2021, PIP DAM entered an alternating upward trend, and, as of June, the trend has shown exclusive growth. As shown in the following chart, in the period January-May, with the increase in sales offers and their constant higher position, compared to purchase offers, the evolution of PIP DAM recorded an alternating

upward trend, after which, starting with June, PIP DAM registered a strong upward trend (given the sharp decrease in sales offers, below the purchase value in July-December).



Development of purchase and sale offers on the DAM and PIP DAM in Romania in 2019-2021

Source: Daily information reported by OPCOM SA - ANRE processing

Between June and December 2021, PIP DAM Romania recorded the highest values of the period January 2019 – December 2021, values that each represented, in turn, historical highs of the monthly average trading prices on DAM, being the highest monthly average values as of July 2005 (when this market became operational) and up until now. The quantity traded on DAM in 2021 increased by 3.8%, compared to the one traded in 2020, and by 11.8%, compared to the one traded in 2019.

3. Collection and processing of data necessary for the National report 2020 and the Monitoring report of the European internal market for electricity and natural gas in 2020

ANRE collected and processed the data and information necessary to ensure Romania's contribution to the Monitoring report of the European internal market for electricity and natural gas in 2020, developed by ACER/CEER. At the same time, ANRE has collaborated with the monitoring departments from OPCOM SA and CNTEE Transelectrica SA for the synthetic presentation of a significant set of indicators on all components of the Romanian electricity market, indicators needed to assess Romania's state of play in the achievement of the single European energy market.

4. Reporting of statistical data to Eurostat and ERRA

Data on consumption and average prices for electricity billed to final customers in 2020 were collected in the formats established by Eurostat, from the economic operators

holding the electricity supply license, and subsequently processed for the purpose of making the half-yearly and annual reports to the National Institute of Statistics (INS), by virtue of the Cooperation Protocol between ANRE and INS. The collection and processing of data was carried out in compliance with the provisions of Regulation (EU) 2016/1952 of the European Parliament and of the Council of October 26th, 2016 on European statistics on gas and electricity prices and repealing Directive 2008/92/EC.

5. Application of Regulation (EU) no. 1227/2011 of the European Parliament and of the Council of October 25th, 2011 on integrity and transparency of the wholesale energy market (REMIT)

Throughout 2020, work was continued to implement the provisions of REMIT and Commission Implementing Regulation (EU) no. 1348/2014 on data reporting for the implementation of Article 8(2) and (6) of REMIT: based on the provisions of REMIT, Implementing Regulation (EU) no. 1348/2014, ACER Decision no. 1/2012 and ANRE Order no. 1/2015, with subsequent amendments, ANRE continued to check and update the information in the National Register of Energy Market Participants. In 2021, there were 22 new participants in the wholesale electricity and natural gas markets. At the end of 2021, 725 participants in the wholesale market possessed an ACER code. ANRE continued to provide guidance to market participants who requested clarifications on the procedure for the granting of an ACER code, updating or correcting the registration data. The trading and fundamental data of market participants are transmitted by means of 3 registered reporting mechanisms - OPCOM SA, the Romanian Commodities Exchange and Transgaz SA.

Participation in ACER and CEER working groups for the coordination of the application of REMIT provisions continued in online format. The carried out activities concerned the follow-up of the implementation phases of REMIT at national level, for 2021, and the fulfilment of the obligations under REMIT incumbent on ANRE, the participants in the wholesale market and the individuals carrying out transactions on a professional basis.

The suspicions of violation of REMIT provisions reported on the ACER notification platform were analysed. The specialized division within ANRE carried out the preliminary analysis of STR notifications sent to ANRE, in accordance with the principles, criteria and stages described in the guidelines issued by ACER.

6. Main developments in the wholesale and retail electricity market in 2021

Wholesale electricity market

We present in the table below the main physical electricity balance data, corresponding to 2021, compared to the previous year:

Indicator	**MU**	**2020**	**2021**	**Development vs. 2020 %**
1. Electricity generated	TWh	53.74	57.05	▲ 106.16
2. Electricity delivered	TWh	50.79	54.02	▲ 106.36
3. Import	TWh	7.38	7.62	▲ 103.25
4. Export	TWh	4.58	5.43	▲ 118.56
5. Internal consumption (2+3-4)	TWh	53.59	56.22	▲ 104.91
6. Household customers consumption:	TWh	13.62	14.25	▲ 104.63
6.1. SU/regulated and Last Resort regime	TWh	8.40	6.08	▼ 72.38
6.2 in a competitive system	TWh	5.22	8.17	▲ 156.51

7. Consumption of non-household customers:	TWh	34.65	36.74	▲ 106.03
7.1. SU, Last Resort and inactive system	TWh	0.87	0.81	▼ 93.10
7.2 in a competitive system	TWh	33.78	35.93	▲ 106.36
8. Electricity delivered to the network as per the transmission contract	TWh	49.63	52.79	▲ 106.37
9. Electricity extracted from the network as per the transmission contract	TWh	53.89	56.40	▲ 104.66
10. Grid losses (CPT) carried out transmission	TWh	0.94	1.09	(115,96)
11. Thermal energy produced for delivery	Tcal	9805.93	9910.11	(101,06)
12. Thermal energy produced in cogeneration	Tcal	6997.07	7127.08	(101,86)

Source: Monthly reports of participants in the wholesale electricity market, OPCOM SA and CNTEE Transelectrica SA - ANRE processing

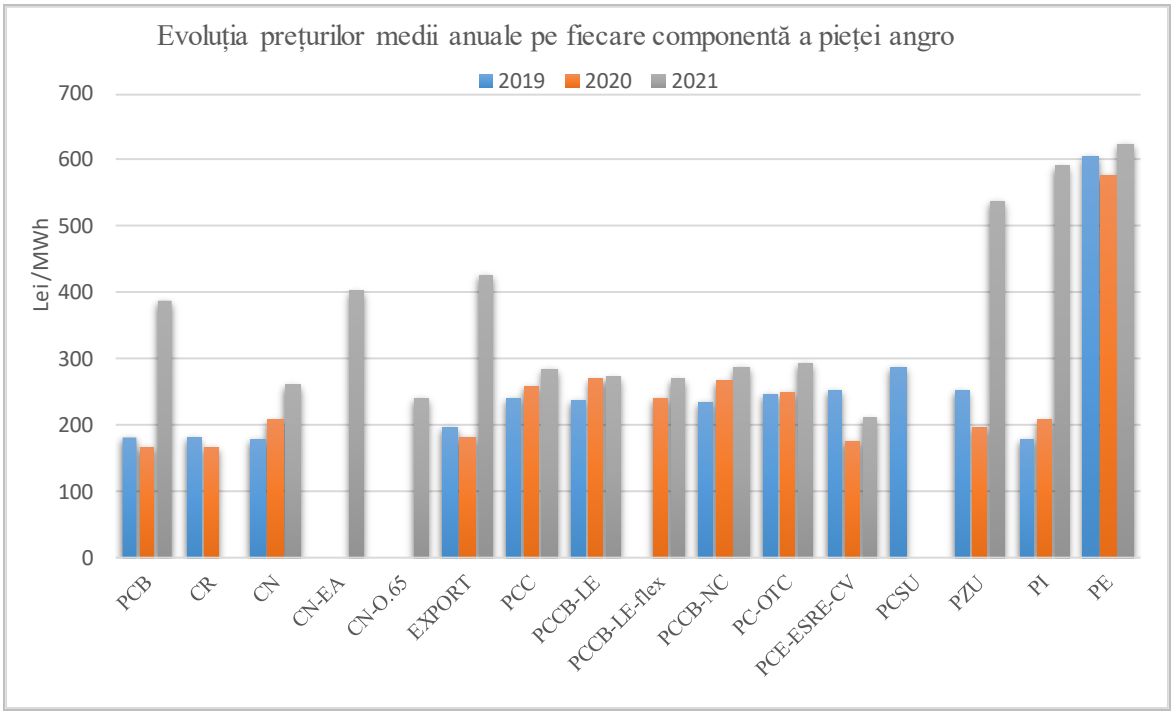
The volumes delivered per each of the components of the wholesale electricity market and per types of contracts in 2021, as compared to previous years, are set out in the following table. The reporting of the quantities of electricity traded on domestic consumption provides a reference for assessing their size.

Components of the wholesale market	**2019 (GWh)**	**2020 (GWh)**	**2021 (GWh)**	**Share of domestic consumption-2021 (%)**
1. Bilateral contracts market (PCB)	4585	7271	659	1.2
1.1. Sale per regulated contracts (CR)	4317	7018	-	-
1.2. Sale per negotiated contracts (CN)	268	254	61	0.1
1.3. Sale per contracts negotiated within EA (CN-EA)	-	-	597	1.1
1.4. Sale per long-term negotiated contracts (ANRE Order no. 65) CN-O.65	-	-	1	0.003
2. Export	3550	4584	5425	9.7
3. Centralized markets for bilateral contracts (PCC), of which:	59799	48616	55013	97.9
3.1. PCCB-LE	18907	13898	4123	7.3
3.2 PCCB-LE-flex	-	438	15208	27.0
3.3. PCCB-NC	15832	8917	6536	11.6
3.4 PC-OTC	25060	25209	28333	50.4
3.5. PCE-ESRE-CV	0.8	153	813	1.4
4. PCSU	612	-	-	-
5. DAM	23133	24924	25861	46.0
6. PI	375	583	1199	2.1
7. PE	3280	3223	2411	4.3

Source: Monthly reports of participants in the wholesale electricity market, OPCOM SA and CNTEE Transelectrica SA - ANRE processing

Note: The quantity related to the export contracts includes both the quantities exported by suppliers/traders and the export made through CNTEE Transelectrica, in the latter's capacity as transfer agent for coupled DAM and PI

The following chart shows the average annual prices per component of the wholesale market, as compared to the values of 2020 and 2019.



Development of average annual prices per each component of the wholesale market

Note: with the exception of DAM and PE (deficit price), the average annual prices are determined as weighted averages and the average export price also took into account the export made through CNTEE Transelectrica SA as a transfer agent for the coupled DAM/PI; all prices include the TG component of the transmission tariff and do not include VAT, excise duties or other taxes.

Retail electricity market

During 2021, on the retail electricity market (PAM) there were 92 active license holders for the electricity supply activity, of which 27 holders of a license for the commercial exploitation of electricity generation capacities with dispatchable units.

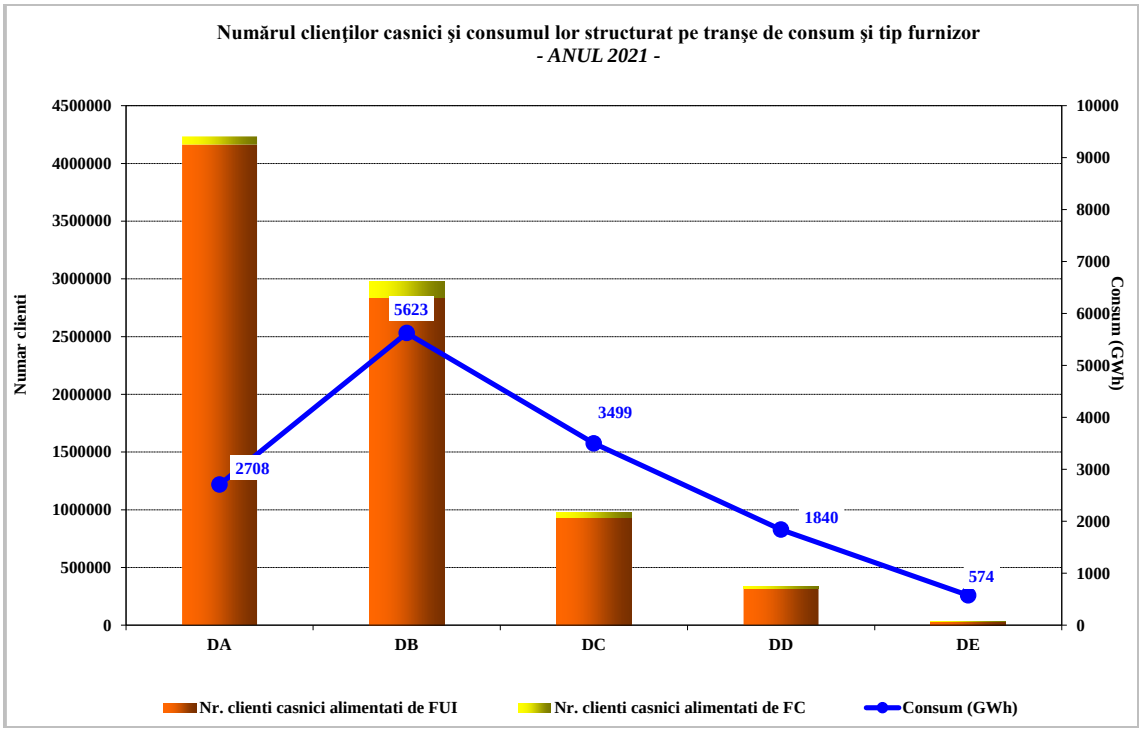
The following graphs show the development of the number of household and non-household customers to whom electricity is supplied per PAM, structured per consumption bands and final customer categories in 2021 and the relevant electricity consumption for each category. The consumption bands structure per category of final customers shall be in accordance with the annual consumption intervals laid down for each band in Regulation (EU) 1952/2016 of the European Parliament and of the Council. The customers' classification in consumption bands is based on their annual consumption forecast.

Tranșe de consum clienti noncasnici	Consum anual cuprins in intervalul (MWh):	
Transa - IA		<20
Transa - IB	>=20	<500
Transa - IC	>=500	<2000
Transa - ID	>=2000	<20000
Transa - IE	>=20000	<70000
Transa - IF	>=70000	<150000
Transa - IG	>=150000	

Tranșe de consum clienti casnici	Consum anual cuprins in intervalul (kWh):	
Transa - DA		<1000
Transa - DB	>=1000	<2500
Transa - DC	>=2500	<5000
Transa - DD	>=5000	<15000
Transa - DE	>=15000	

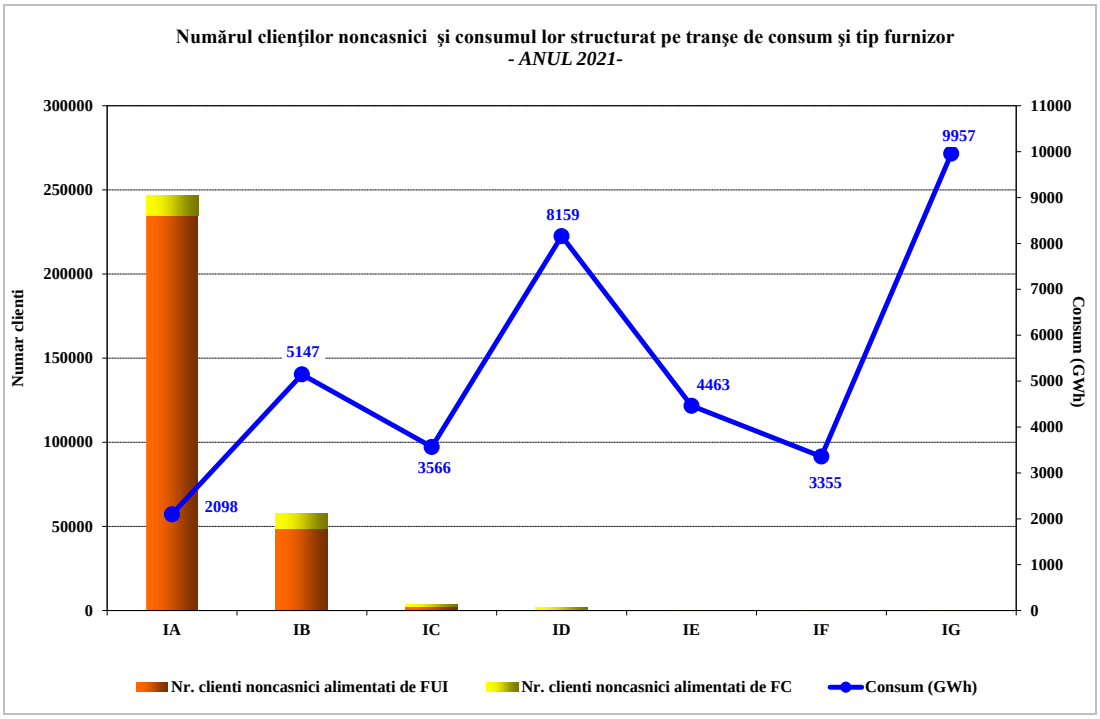
Consumption bands, non-household customers, Annual consumption between the following values, Band

Consumption bands, household customers, Annual consumption between the following values, Band



Number of household customers and their consumption based on consumption bands and supplier type, No. of household customers supplied by SoLR, No. of household customers supplied by FC, Consumption

Source: Monthly reports of final customer suppliers – ANRE processing



Number of non-household customers and their consumption based on consumption bands and supplier type, No. of non-household customers supplied by SoLR, No. of non-household customers supplied by FC, Consumption

Source: Monthly reports of final customer suppliers – ANRE processing

The values of the retail structure indicators and the number of active suppliers in 2021, calculated for each consumption band, are presented in the following tables:

Indicatori - ANUL 2021	Tranşe de consum clienţi casnici					
	DA	DB	DC	DD	DE	Total
C1 - % -	25	34	39	43	54	**35**
C3 - % -	68	69	71	76	79	**71**
HHI	2016	2135	2383	2597	3374	**2211**
Consum - GWh -	2708	5623	3499	1840	574	**14244**
NR. FURNIZORI	39	40	40	39	38	**49**
nr. furnizori de ultimă instanţă	6	6	6	6	6	**6**
nr. furnizori concurentiali	25	27	26	25	25	**32**
nr. producatori	8	7	8	8	7	**11**

Indicators, YEAR 2021, Household customers – consumption bands, Consumption, No. of suppliers, no. of last resort suppliers, no. of competitive suppliers, no. of producers

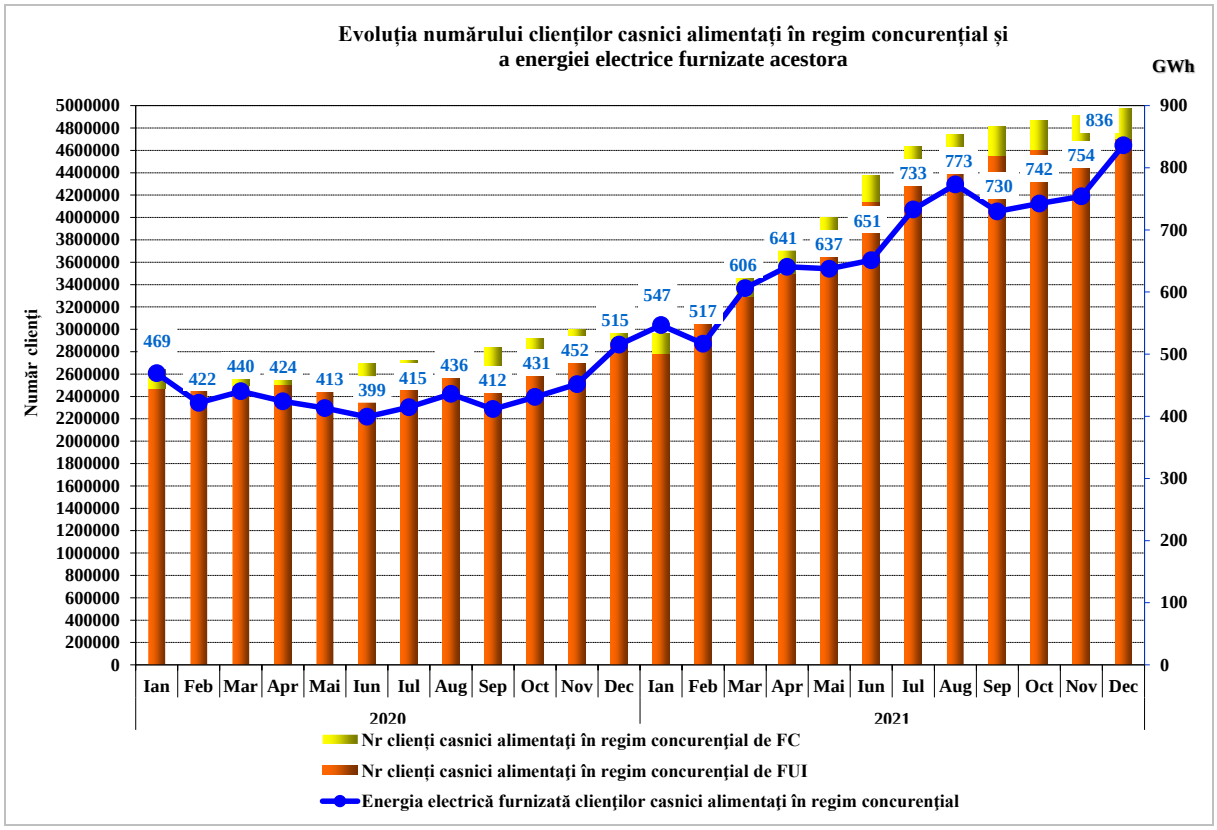
Source: Monthly reports of final customer suppliers – ANRE processing

Indicatori -ANUL 2021	Tranşe de consum clienţi noncasnici							
	IA	IB	IC	ID	IE	IF	IG	Total
C1 - % -	25	20	17	14	22	18	16	**12**
C3 - % -	65	49	37	32	47	39	38	**31**
HHI	1783	1208	823	654	1062	871	824	**586**
Consum - GWh -	2098	5147	3566	8159	4463	3355	9957	**36744**
NR. FURNIZORI	70	76	71	65	27	18	21	**90**
nr. furnizori de ultimă instanţă	6	6	6	6	5	4	4	**6**
nr. furnizori concurentiali	44	48	46	43	15	9	9	**57**
nr. producatori	20	22	19	16	7	5	8	**27**

Indicators, YEAR 2021, Non-household customers – consumption bands, Consumption, No. of suppliers, no. of last resort suppliers, no. of competitive suppliers, no. of producers

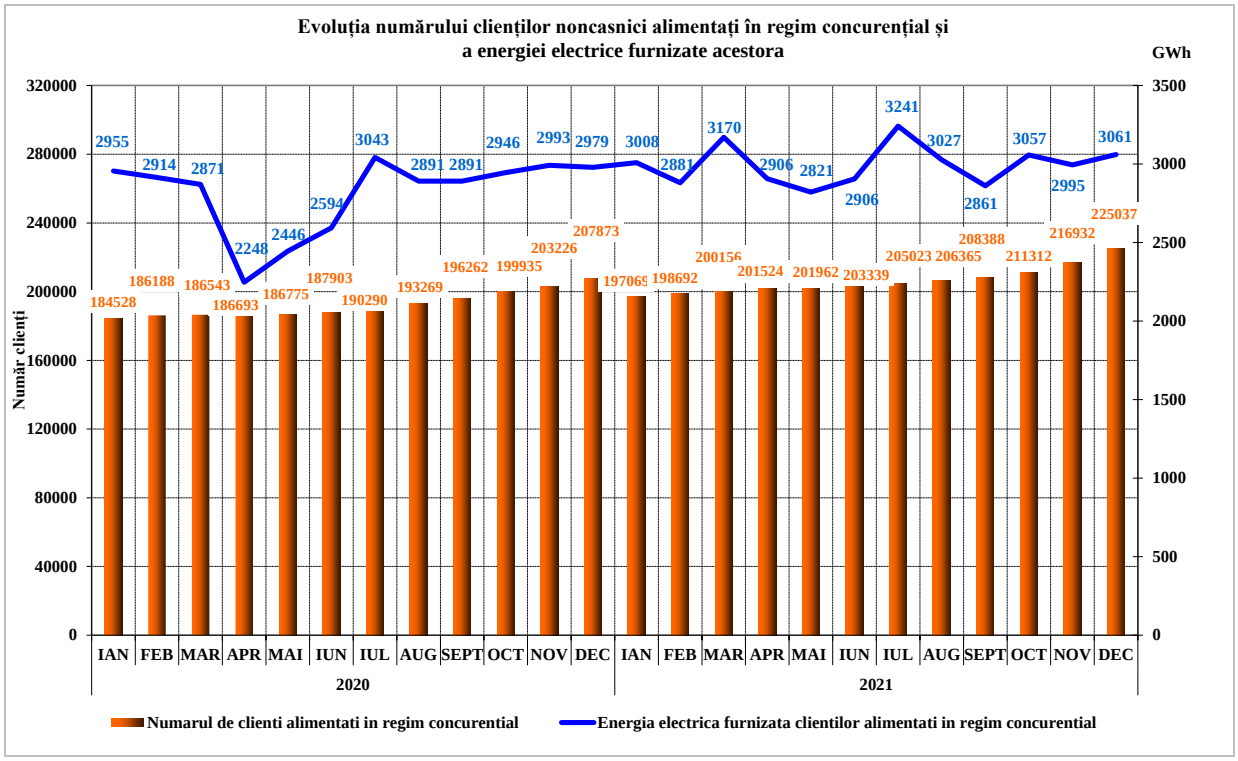
Source: Monthly reports of final customer suppliers – ANRE processing

Regarding the competitive segment of the retail electricity market, we present below the development of the number of households and non-households supplied under competitive conditions and the electricity supplied to them for the years 2020 and 2021.



Development of the number of household customers supplied on the competitive market and electricity supplied to them, No. of household customers supplied on the competitive market by FC, No. of household customers supplied on the competitive market by SoLR, Electricity supplied to household customers on the competitive market

Source: Monthly reports of final customer suppliers – ANRE processing



Development of the number of non-household customers supplied on the competitive market and electricity supplied to them, No. of non-household customers supplied on the competitive market, No. of non-household customers supplied under non-competitive conditions
Source: Monthly reports of final customer suppliers – ANRE processing

The following tables show the values of the structure indicators of the competitive retail component and the number of active suppliers in 2021, calculated for each consumption band defined by Regulation (EU) 1952/2016 for household and non-household customers.

Indicatori - ANUL 2021	Tranşe de consum clienţi casnici					
	DA	DB	DC	DD	DE	Total
C1 - % -	29	25	28	31	52	**25**
C3 - % -	73	67	72	78	81	**70**
HHI	2197	1883	2037	2213	3188	**1959**
Consum - GWh -	1373	2966	2110	1240	478	**8167**
NR. FURNIZORI	39	40	40	39	38	**49**
nr. furnizori de ultimă instanţă	6	6	6	6	6	**6**
nr. furnizori concurentiali	25	27	26	25	25	**32**
nr. producatori	8	7	8	8	7	**11**

Indicators, YEAR 2021, Household customers – consumption bands, Consumption, No. of suppliers, no. of last resort suppliers, no. of competitive suppliers, no. of producers
Source: Monthly reports of final customer suppliers – ANRE processing

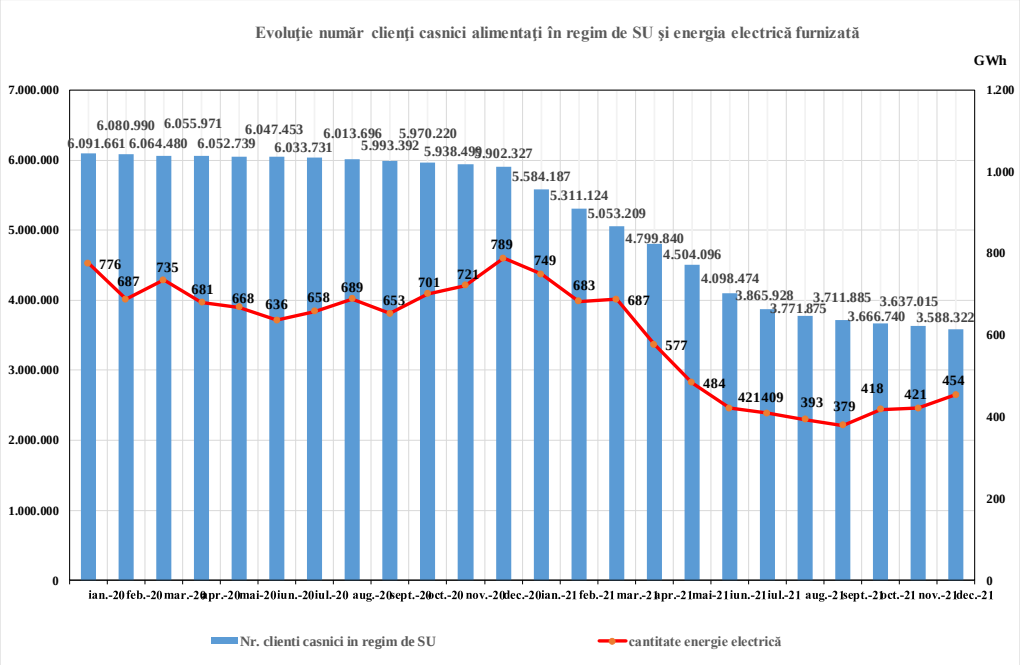
Indicatori -ANUL 2021	Tranşe de consum clienţi noncasnici							
	IA	IB	IC	ID	IE	IF	IG	Total
C1 - % -	25	18	17	13	22	18	16	**11**
C3 - % -	67	47	37	32	47	39	38	**31**
HHI	1738	1158	820	652	1062	871	824	**571**
Consum - GWh -	1577	4923	3539	8124	4461	3355	9957	**35936**
NR. FURNIZORI	70	76	71	65	27	18	21	**90**
nr. furnizori de ultimă instanţă	6	6	6	6	5	4	4	**6**
nr. furnizori concurentiali	44	48	46	43	15	9	9	**57**
nr. producatori	20	22	19	16	7	5	8	**27**

Indicators, YEAR 2021, Non-household customers – consumption bands, Consumption, No. of suppliers, no. of last resort suppliers, no. of competitive suppliers, no. of producers
Source: Monthly reports of final customer suppliers – ANRE processing

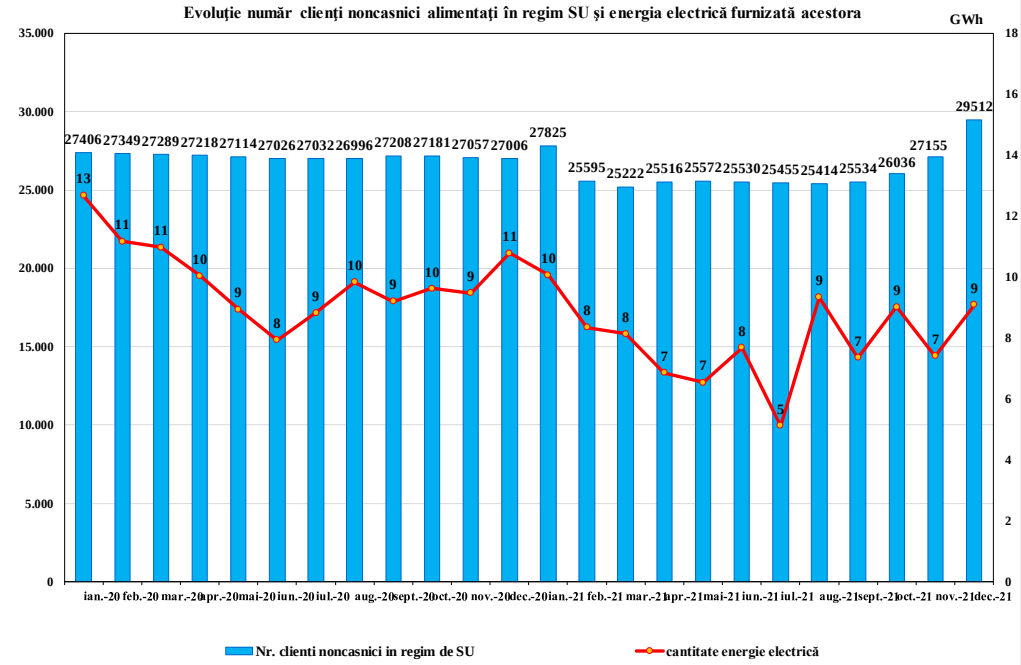
Electricity market for final customers serviced by suppliers of last resort (SoLR)

On the electricity market for final customers serviced by suppliers of last resort there were 6 active SoLR as of January 1st, 2021, from whom mainly information on the number of customers, the average wholesale electricity purchase prices, the quantities of electricity sold to final customers and the average selling price is collected.

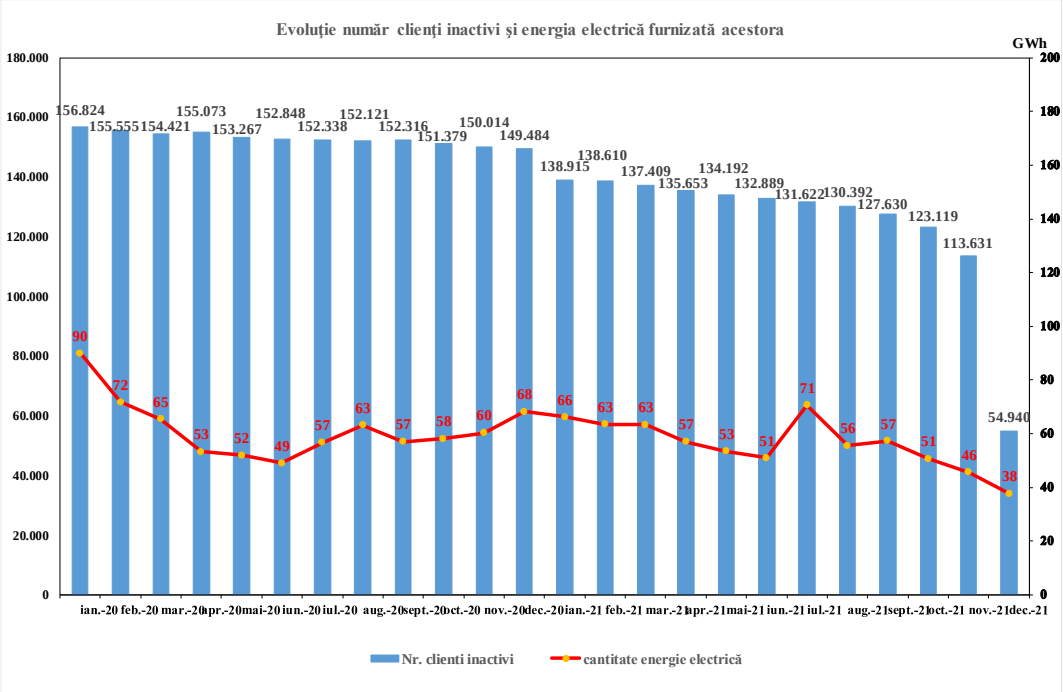
The following graphs show the development of the number of final customers supplied under SU, Last Resort conditions and inactive ones, namely the electricity supplied to them by the SoLR in 2020 and 2021:



Development of number of household customers supplied under SU conditions and supplied electricity, No. of household customer SU, Quantity of electricity
Source: Monthly reports of final customer suppliers – ANRE processing

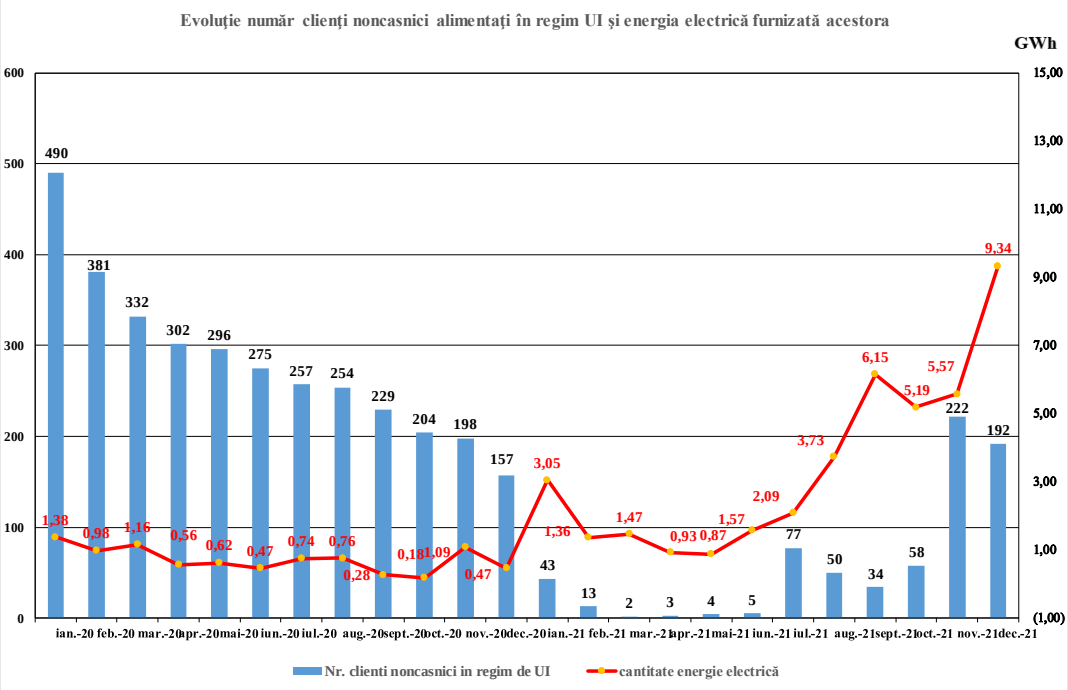


Development of number of non-household customers supplied under SU conditions and supplied electricity, No. of non-household customer SU, Quantity of electricity
Source: Monthly reports of final customer suppliers – ANRE processing



Development of inactive customers and electricity supplied to them, No. of inactive customers, Quantity of electricity

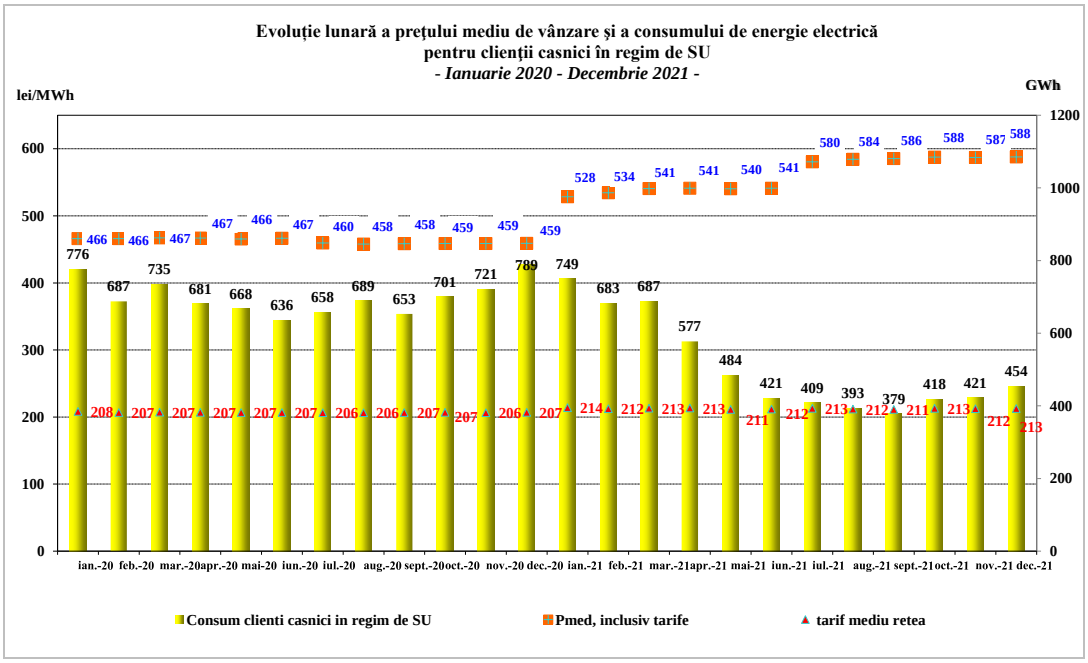
Source: Monthly reports of final customer suppliers – ANRE processing



Development of the number of non-household customers under last resort conditions and electricity supplied to them, No. of non-household customers under last resort conditions, Quantity of electricity

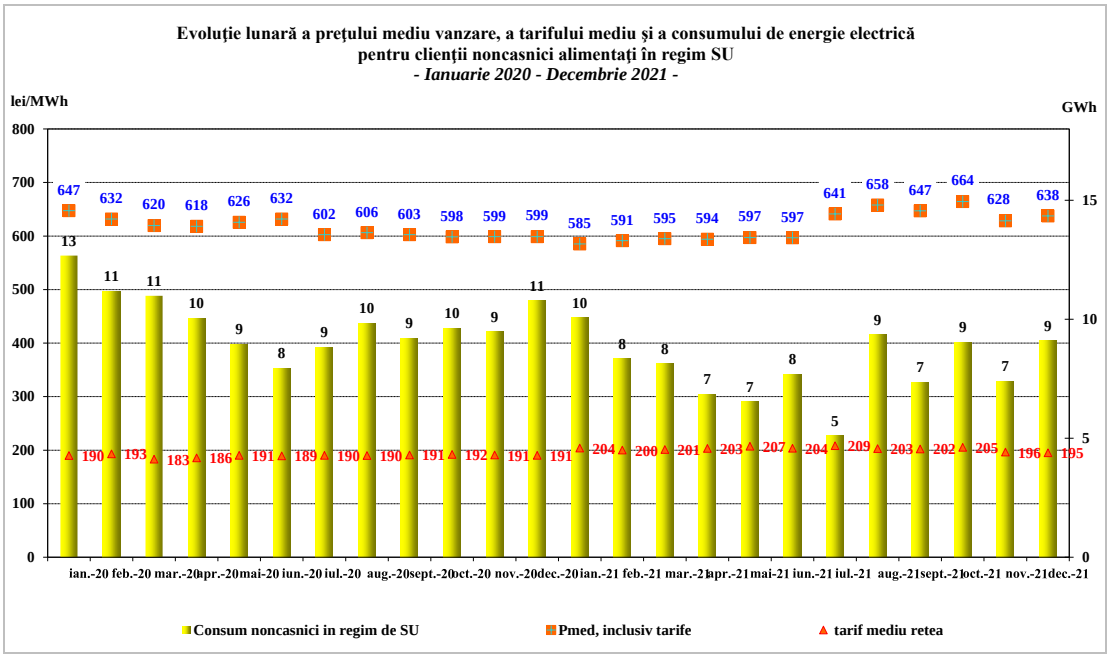
Source: Monthly reports of final customer suppliers – ANRE processing

The monthly developments of the quantities of electricity supplied by the SoLR to the final customers supplied under SU, Last Resort conditions or inactive, the average electricity sales prices and the average network tariffs are shown in the following graphs:



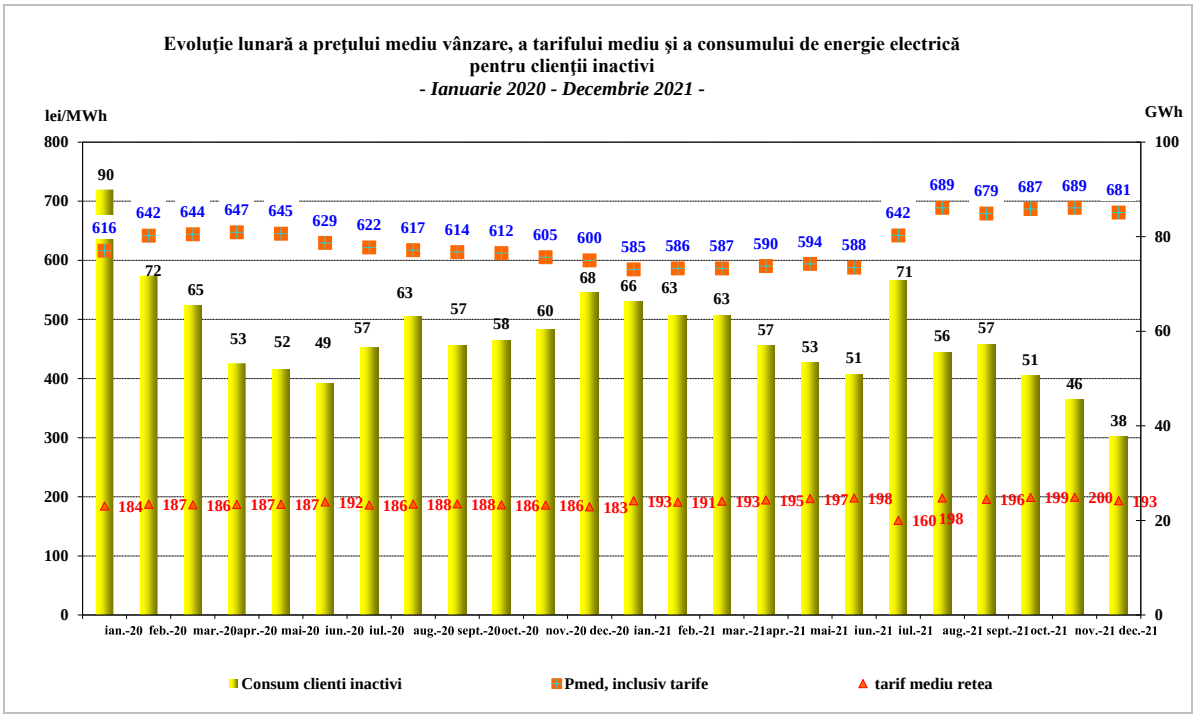
Monthly development of the average sale price and electricity consumption for household customers under SU conditions, Consumption of SU household customers, Pmed, including tariffs, Average network tariff

Source: Monthly reports of final customer suppliers – ANRE processing



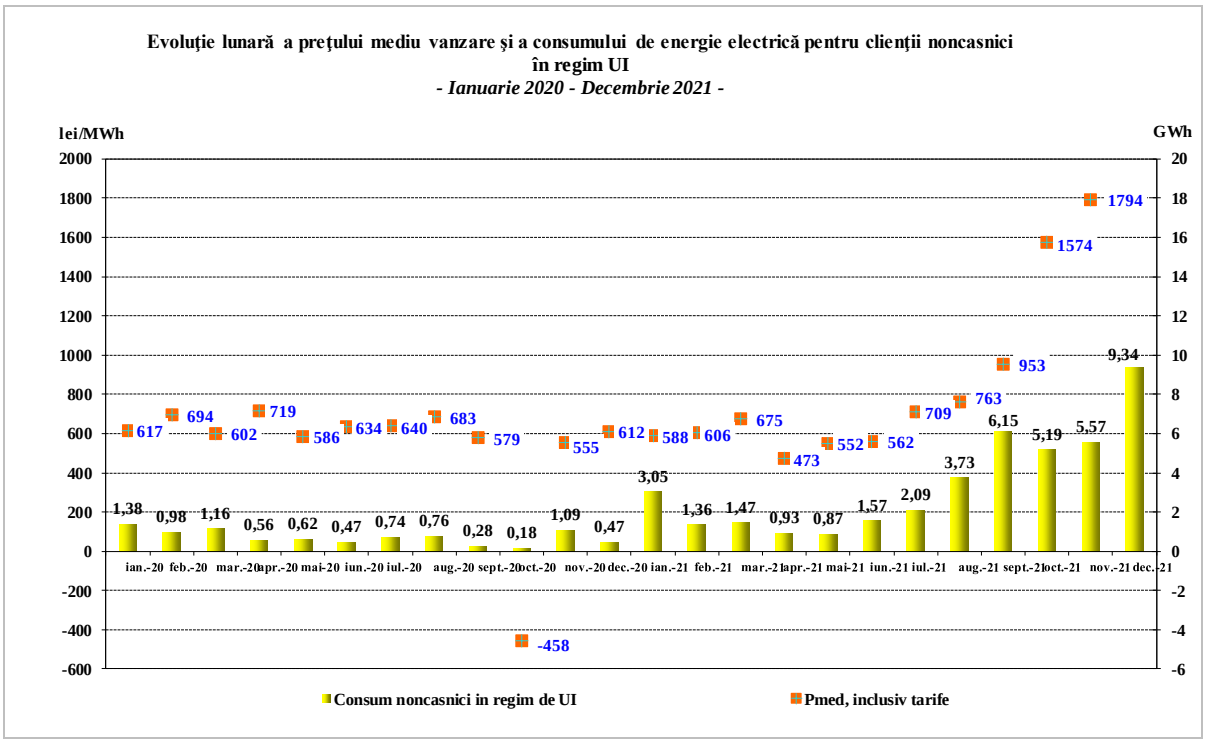
Monthly development of the average sale price, the average tariff and electricity consumption for non-household customers under SU conditions, Consumption of SU non-household customers, Pmed, including tariffs, Average network tariff

Source: Monthly reports of final customer suppliers – ANRE processing



Monthly development of the average sale price, the average tariff and electricity consumption for inactive customer, Consumption of inactive customers, Pmed, including tariffs, Average network tariff

Source: Monthly reports of final customer suppliers – ANRE processing



Monthly development of the average sale price and electricity consumption for non-household customers under last resort conditions, Consumption of last resort non-household customers, Pmed, including tariffs, Average network tariff
Source: Monthly reports of final customer suppliers – ANRE processing

The results of the monitoring activity, namely the main indicators specific to the wholesale and retail electricity market and their monthly development, can be accessed on the ANRE website, within the monthly reports on the results of the monitoring of the electricity market.

NATURAL GAS

The main developments in the natural gas market in 2021

General data

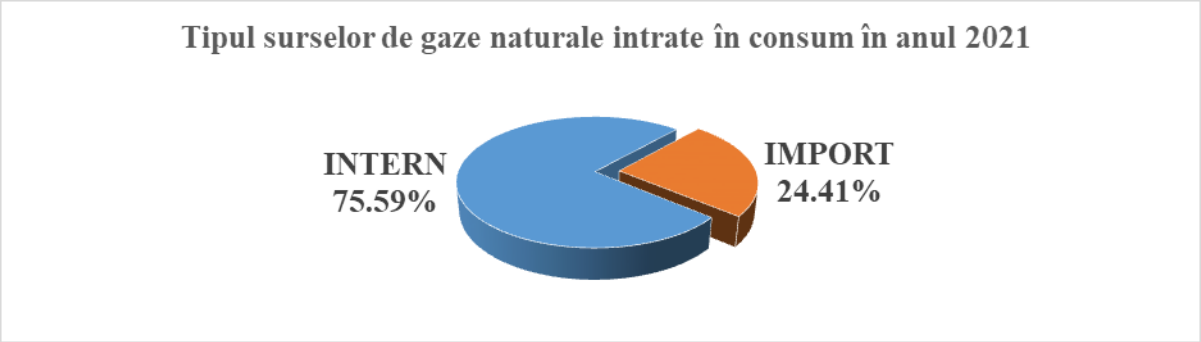
Annual gas consumption recorded a slight increase compared to 2020, reaching the level of approx. 130.11 TWh, with an increase of 2.34% in 2021, as compared to 2020.

The number of participants in the natural gas market in Romania has constantly changed after the market has been liberalized, especially in the gas supply sector, including in 2021:

- One national transmission system operator – Transgaz;
- 10 producers: Romgaz, OMV Petrom, Amromco Energy, Dacian Petroleum, Foraj Sonde, Hunt Oil Company Of România, Mazarine Energy România, Raffles Energy, Serinus Energy România, Stratum Energy România;
- External suppliers that bring natural gas from external sources to Romania: Axpo Bulgaria EAD, Axpo Solutions AG, Axpo Ukraine LLC, Bulgar Gaz Sofia, Bulgargaz EAD, Bulgartransgaz EAD, CEEGEX Zrt, Dexia Bulgaria, DXT International, Ekos 17 Ltd, Energiko Eood, Energiko Trading Bulgaria OOD, Engie Franţa, ERU Management Services, FGSZ Ltd, Gas Energy Finance Ltd, Gazprom Export LLC, Geoplin, Gruppo Societa Gas Rimini S.p.A., Imex Oil Limited, Keler Hungary, Magyar Foldgazkereskedo Zrt, MET Austria Energy Trade GmbH, MET Energy Trading Bulgaria EAD, MET Gas and Energy Marketing Ltd, MET Hungary Ltd, MET International AG, MOL Commodity Trading Kft, Mytilineos, OMV Gas Marketing&Trading GmbH, Overgas Inc.AD, Prvo Plinarsko Drustvo, RWE Supply&Trading GmbH, SD Project EAD, SPS Global OOD, Tibiel EOOD, Trafigura Trading (Europe) Sarl, Uniper Global Commodities SE, Vitol Gas and Power B.V, Wiee Bulgary, Wiee Hungary Kft.
- 2 storage operators: Romgaz – Natural gas storage subsidiary Depogaz Ploiești S.R.L. and Depomureş;
- 30 distribution operators - the largest being Distrigaz Sud Rețele and Delgaz Grid;
- 86 active suppliers on the natural gas market;
- 8 traders in the natural gas market.

Wholesale gas market

The domestic production of natural gas in 2021, i.e. current production and extracted from storage, which went into consumption, accounted for aaprox. 75.59% of the total sources. The first two producers (Romgaz and OMV Petrom) together covered approx. 96.43% of this source.



Type of natural gas sources used in 2021, Internal production, Import
Source: Monthly reports of suppliers – ANRE processing

Production extracted from production sites during 2021 and injected into underground storage facilities from this source are shown in the table below:

Month	**Current production (MWh)**	**Injected quantity from domestic production (MWh)**
January	8,714,449.993	25,294.846
February	7,846,354.656	-
March	8,668,995.633	36.601
April	8,305,965.510	255,972.625
May	8,020,785.973	3,191,246.636
June	7,616,775.837	2,890,037.453
July	7,590,764.608	3,975,520.145
August	7,392,622.210	4,006,099.595
September	7,566,082.312	3,131,395.857
October	7,988,125.814	1,688,722.021
November	7,861,043.826	175,573.626
December	8,104,046.983	37,214.988
Total 2021	95,676,013.355	19,377,114.39

The amount of natural gas produced in 2021 was 95.676 TWh, as follows:

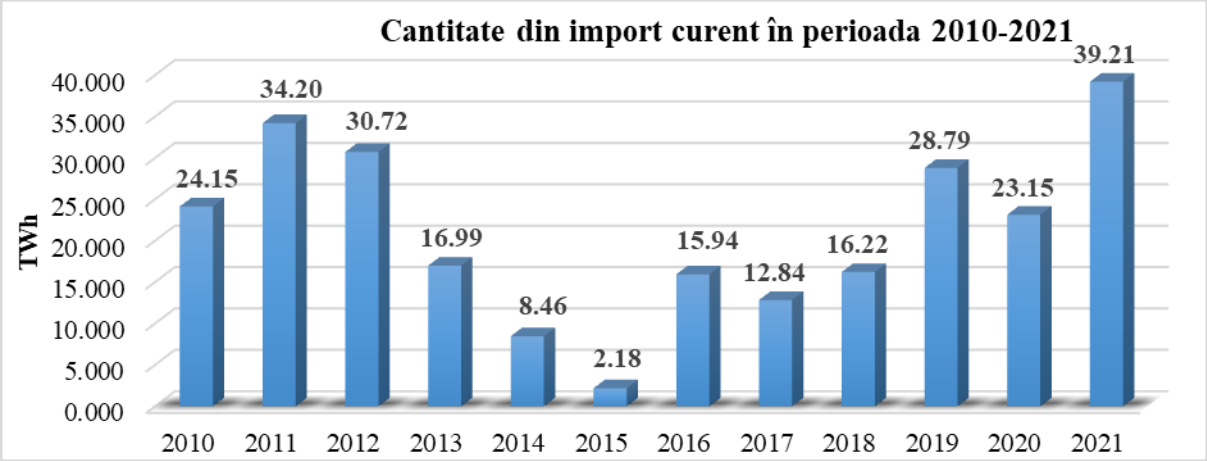
Amromco Energy	**Dacian Petroleum**	**Foraj Sonde**	**Hunt Oil Company**	**Mazarine Energy Romania**	**OMV Petrom**	**Raffles Energy**	**Romgaz**	**Serinus Energy Romania**	**Stratum Energy Romania**	**Total (TWh)**
0.938	0.029	0.096	0.579	0.268	39.180	0.022	52.914	0.747	0.904	95.676

The import of natural gas that went into consumption in 2021 accounted for 24.41% of the total sources. It includes, in addition to the current import, the extraction of natural gas from external sources from underground storage warehouses, but excludes quantities stored in underground storage warehouses from current import. The top three importers - domestic suppliers - together accounted for approx.. 66.01% of these quantities.

The table below shows the current import and consumption import:

Month	**Current import (MWh)**	**Consumption import (MWh)**
January	2,726,940.482	2,962,844.191
February	3,090,694.953	2,998,214.576
March	3,198,738.094	2,872,446.473
April	2,384,806.699	2,394,086.255
May	3,154,086.727	2,179,544.368

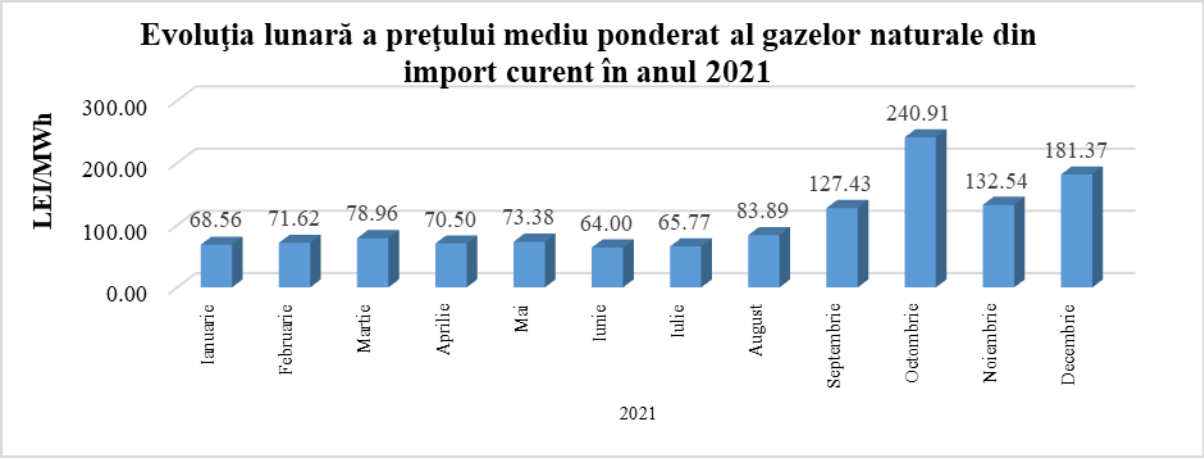
June	2,711,499.809	1,297,643.721
July	3,854,150.877	2,248,769.584
August	4,373,529.710	2,189,934.412
September	2,355,937.440	1,928,361.719
October	3,521,781.933	3,320,897.860
November	3,614,273.646	2,931,948.890
December	4,222,443.050	4,314,018.724
TOTAL	**39,208,883.420**	**31,638,710.772**



Quantity from current import in 2010 – 2021

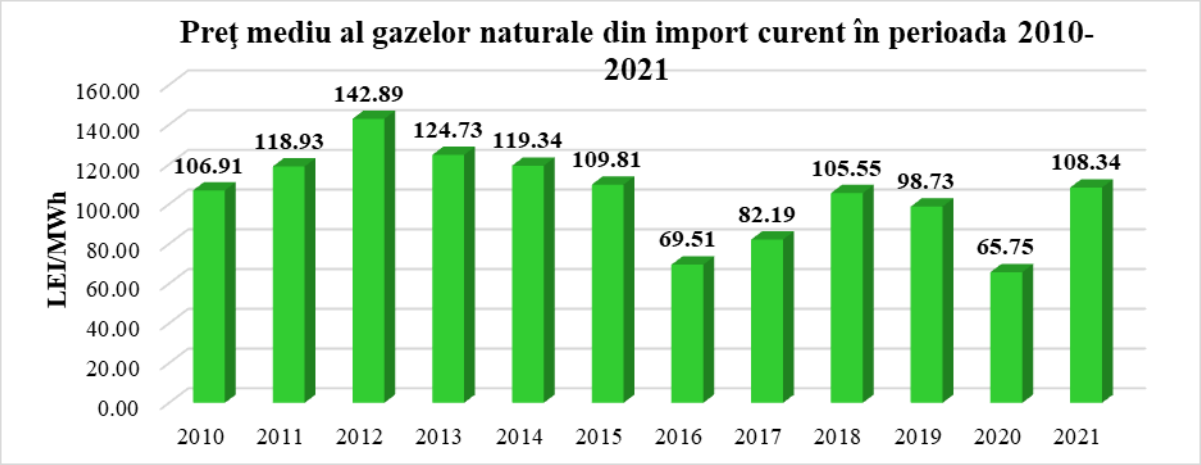
Source: Reports of participants in the natural gas market, processed by ANRE

In 2021, there is an increase in the imported quantities, as compared to the previous year, a revival of the current import takes place, compared to the last six years (as can be seen from the graph), resulting on the background of the increase in annual consumption.



Monthly development of the average weighted price of natural gas from current import in 2021

Source: Reports of participants in the natural gas market, processed by ANRE



Average prices of natural gas from current import in 2010-2021
Source: Reports of participants in the natural gas market, processed by ANRE

Regarding the prices of natural gas imported from the current import, we specify that they are determined by weighting the prices with the quantities delivered monthly, corresponding to the sales transactions of natural gas imported, reported by the market participants, and do not contain VAT, excise duties or other taxes.

The quantities exported, irrespective of the source of origin, and the quantities exported from domestic production during 2021 are shown in the table below:

Month	**Quantities exported (MWh)**	**Quantities exported from domestic production (MWh)**
January	48,144.236	48,144.236
February	160,902.701	160,902.701
March	36,410.464	36,410.464
April	681,887.540	174,149.650
May	1,241,806.780	328,246.262
June	1,188,951.360	311,494.882
July	1,541,419.550	292,476.817
August	1,492,949.124	218,386.002
September	252,510.833	130,123.814
October	551,453.594	38,790.893
November	1,015,723.263	16,582.481
December	567,417.926	95,875.070
Total 2021	**8,779,577.371**	**1,851,583.272**

Natural gas storage

The storage activity related to natural gas during the summer period is necessary for the optimal functioning of the Romanian market, due to the fact that the current production, together with the current import, fail to cover the monthly consumption needs of the winter period. As current production is in excess of consumption during the summer, storage actually becomes a necessity for natural gas producers, if suppliers do not purchase quantities for storage necessary for consumption during the cold period.

Economic operator type	Inventory as of October 31st, 2021 (MWh)
Producers	7,329,480.590
Rest of the market participants*	17,264,095.031
Total stored	**24,593,575.621**

**suppliers and transmission operator*

The table below shows the monthly development of the natural gas inventory in underground storage facilities throughout 2021:

Inventory 2021	**Total (MWh)***
January 2021	14,636,596.611
February 2021	9,760,471.005
March 2021	5,755,641.824
Inventory at the end of the extraction cycle 2020-2021	5,755,641.824
April 2021	4,494,233.405
May 2021	7,801,758.853
June 2021	11,281,270.431
July 2021	15,661,345.870
Aug 2021	20,468,675.285
September 2021	23,900,179.012
October 2021	24,593,575.621
Inventory at the end of the injection cycle 2021*	24,593,575.621
November 2021	22,132,711.327
December 2021	17,400,087.937

** the extractions conducted during the summer were also considered*

On the national gas market, two underground gas storage operators, Depomureş S.A. and S.N.G.N. Romgaz S.A. – Natural gas storage subsidiary Depogaz Ploiesti S.R.L. are active. The total capacity and the development of the use of this capacity is shown in the table below.

Underground storage operator	**Year**	**Storage capacity (MWh)**	**Inventory per extraction activity (MWh)**	**Injected quantity (Apr-Oct) (MWh)**
Romgaz	2013	29,503,400	6,704,018.854	21,188,550.748
	2014		8,141,654.008	18,077,373.958
	2015		5,611,283.576	17,869,463.34
	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
	2020		17,632,619.755	11,510,603.344
	2021		5,530,359.023	19,190,773.605
Depomureş	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
	2020		1,246,198.529	1,748,920.000
	2021		225,282.800	2,543,134.000

The structure of transactions in the wholesale gas market

The following table shows the quantities of natural gas delivered in 2021, as compared to 2020, as a result of the transactions concluded on each type of market/trading platform and the average prices achieved:

TRANSACTIONS IN THE WHOLESALE MARKET	**TOTAL 2020**	**TOTAL 2021**
1. QUANTITIES TRADED IN ACCORDANCE WITH ART. 124 OF LAW NO. 123/2012		
Traded quantities (MWh)	15,240,678.932	0.000
Price (RON/MWh)	68.00	
2. BILATERAL CONTRACTS MARKET		
Traded quantities (MWh)	28,831,158.899	73,098,136.574
Average price (RON/MWh)	71.68	144.87
3. PUBLIC TENDERS (SEAP)		
Traded quantities (MWh)	596,386.577	449,212.698
Average price (RON/MWh)	118.23	82.79
4. IMPORT		
Traded quantities (MWh)	23,148,727.878	39,208,883.271
Average price (RON/MWh)	65.75	79.04
5. BRM ORGANIZED MARKETS	42,039,409.722	56,122,033.633
5.1. Trading method - SIMPLE COMPETITIVE GAS-FORWARD platform		
Traded quantities (MWh)	21,769,569.468	4,468,198.998
Average price (RON/MWh)	84.89	76.08
5.2. Trading method - DOUBLE COMPETITIVE GAS-FORWARD platform		
Traded quantities (MWh)	13,733,763.000	43,146,962.190
Average price (RON/MWh)	65.62	106.59
· of which, transferred to central counterparty by means of novation		
Traded quantities (MWh)		1,169,643.000
Average price (RON/MWh)		190.88
5.3. Trading method - CENTRAL COUNTERPARTY GAS-FORWARD platform		
Traded quantities (MWh)	49,560.000	0.000
Average price (RON/MWh)	44.67	
5.4. Trading method - DAY AHEAD MARKET GAS platform		
Traded quantities (MWh)	3,048,876.611	4,159,529.842
Average price (RON/MWh)	56.08	284.27
5.5. Trading method - WITHIN-DAY MARKET GAS platform		
Traded quantities (MWh)	3,312,266.643	4,347,342.603
Average price (RON/MWh)	57.43	220.91
5.6. Trading method - STEG platform		
Traded quantities (MWh)	125,374.000	0.000
Average price (RON/MWh)	108.58	
6. OPCOM CENTRALIZED MARKETS	21,024,675.001	809,252.000
6.1. Trading method - DAM-GN		
Traded quantities (MWh)	0.000	0.000
Average price (RON/MWh)		
6.2. Trading method - PI-GN		
Traded quantities (MWh)	0.000	0.000

Average price (RON/MWh)		
6.3. Trading method - PCGN-LN		
Traded quantities (MWh)	21,024,675.001	809,252.000
Average price (RON/MWh)	103.82	71.09
6.4. Trading method - PCGN-LP		
Traded quantities (MWh)	0.000	0.000
Average price (RON/MWh)		
6.5. Trading method - PCGN-OTC		
Traded quantities (MWh)	0.000	0.000
Average price (RON/MWh)		
7. NATURAL GAS BALANCING MARKET	318,037.076	1,059,039.683
7.1. Ring PE_DA_CC		
Traded quantities (MWh)	4,727.633	0.000
Average price (RON/MWh)	63.74	
7.2. Ring PE_IMB_CC		
Traded quantities (MWh)	36,269.461	0.000
Average price (RON/MWh)	66.77	
7.3. Ring PE_IMB_PET		
Traded quantities (MWh)	30,045.499	0.000
Average price (RON/MWh)	67.79	
7.4. Ring PE_WD_CC		
Traded quantities (MWh)	68.400	0.000
Average price (RON/MWh)	68.00	
7.5. Ring PE_DA_PET		
Traded quantities (MWh)	16,831.263	0.000
Average price (RON/MWh)	68.00	
7.6. Ring PE_WD_PET		
Traded quantities (MWh)	5,129.258	0.000
Average price (RON/MWh)	68.00	
7.7. Ring PE_IMB		
Traded quantities (MWh)	224,965.562	1,059,039.683
Average price (RON/MWh)	60.86	223.55

Source: Monthly reports of participants in the natural gas market- processed by ANRE

The situation compared with the previous year regarding the quantities and prices related to natural gas sold by natural gas producers, participants in the wholesale market, for delivery in 2021, per each type of market / trading platform / participant is as follows:

Transaction Type	**2020**		**2021**	
	Quantity (MWh)	**Price (RON/MWh)**	**Quantity (MWh)**	**Price (RON/MWh)**
Quantities purchased according to art. 124 of Law no. 123/2012	15,241,086.931	68.00	0.00	0.00
Negotiated, producers	108,245.427	51.88	1,363,655.736	102.56
Negotiated, suppliers	6,701,569.570	61.34	14,369,911.475	103.10
Negotiated, TSO	408,262.079	51.13	471,031.262	172.04
Contracts in the centralized markets of BRM:	29,614,058.363	75.21	43,568,261.939	101.53
Simple competitive gas forward platform	16,936,001.952	83.89	5,344,923.281	78.48
STEG platform	89,116.346	107.96	0.000	0.00
Day ahead market gas	556,486.459	58.92	475,966.541	130.57

platform				
Within day market gas platform	1,227,813.428	58.89	543,778.005	174.86
Double competitive gas forward platform	10,777,646.586	64.02	37,101,014.105	102.83

Year 2021	Average weighted price (RON/MWh)	Total BRM traded quantities, of which: (MWh)	Gas Forward simple and double competitive BRM (MWh)	Gas Forward simple and double competitive BRM price (RON/MWh)	Day ahead BRM (MWh)	Day ahead BRM price (RON/MWh)	Within day BRM (MWh)	Within day BRM price (RON/MWh)
	211.96	**49,932,478.445**	41,425,606.000	203.76	4,159,529.842	284.27	4,347,342.603	220.92

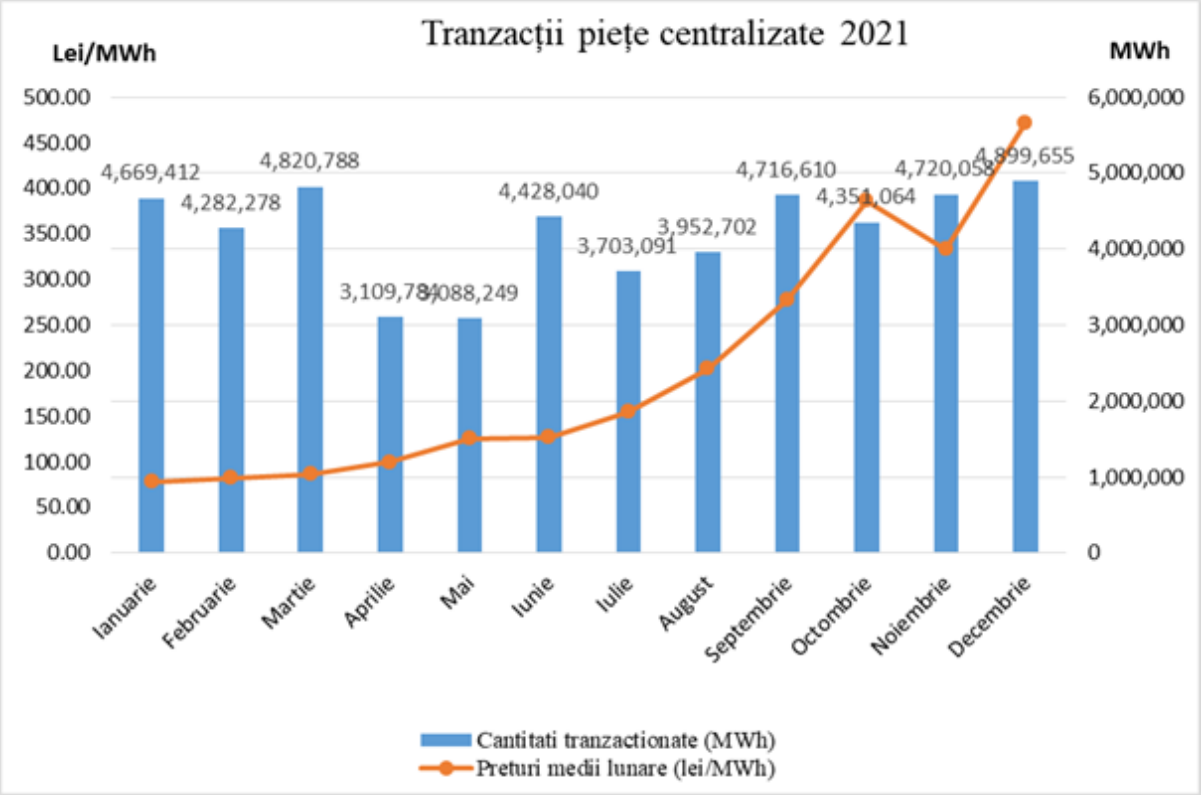
* transferred to central counterparty by means of novation			14,356.000	235.37
Balancing market	30,424.268	61.56	102,580.007	308.66
Contracts in the centralized markets of OPCOM SA, of which:	9,909,951.775	108.59	809,252.000	71.09
PCCB-LN	9,909,951.775	108.59	809,252.000	71.09
PCCB-LP	0.000	0.00	0.000	0.00
PC-OTC	0.000	0.00	0.000	0.00
DAM	0.000	0.00	0.000	0.00

Centralized markets

In 2021, the quantities traded on the centralized markets, on the platforms managed by the operator of the centralized gas markets BRM, amounted to 49.93 TWh.

The following table lists the quantities traded in 2021 on each of BRM's trading platforms: Gas Forward simple and double competitive, Within-day market and Day-ahead gas market, together with the related prices, determined as a weighted average of the prices with the quantities of transactions concluded on the respective platforms; the traded quantities will be subsequently delivered.

The monthly development of total quantities traded on centralized markets in 2021 and the related average prices is shown in the following chart:



Centralised markets' transactions 2021, Traded quantities, Average monthly prices

Source: Monthly reports of BRM – ANRE processing

** The chart does not include flexible products traded on the simple competitive Gas Forward platform, namely the total quantity of 354,000 MWh, because a fixed price cannot be determined in this regard; the price is represented by a formula.*

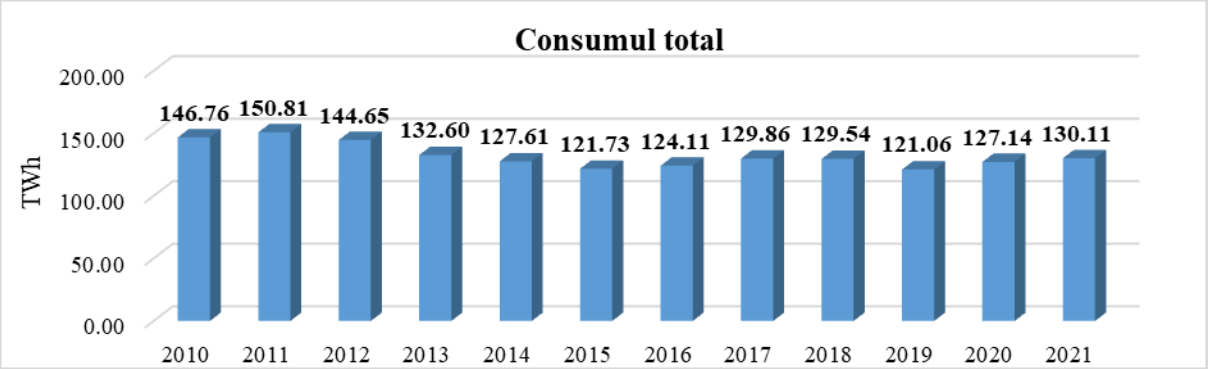
Retail gas market

In 2021, 75 suppliers were active on the competitive retail gas market.

The total number of natural gas final customers in December 2021 was 4,350,560, of which 237,996 non-household customers (approx. 5.47%) and 4,112,564 household customers (approx. 94.53%).

The total natural gas consumption recorded in 2021 was about 130.11 TWh, registering an increase of 2.34% in 2021, as compared to 2021.

In the total consumption of the natural gas sector, a part is represented by specific consumption of activities in the sector or consumption of operators in relation to specific technological processes: technological consumption, energy consumption and deviations due to metering instruments.



Total consumption

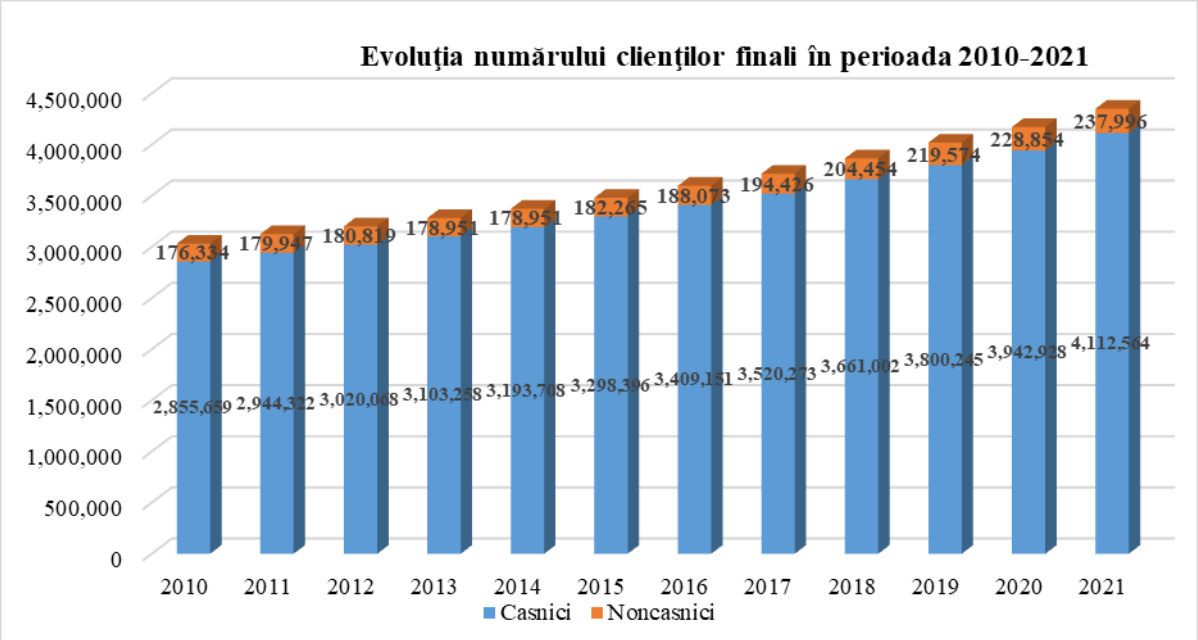
Apart from the specific consumption mentioned before, in 2021, the final customer consumption provided by suppliers was approximately 122 TWh, of which approx. 81.08 TWh represented non-household consumption and 40.84 TWh household consumption, as follows:

Final customers	**No. of customers**	**Consumption* (TWh)**	**Share in total consumption**
Household	4,112,564	40.84	33.50 %
Non-household customers	237,996	81.08	66.50 %
Total	4,350,560	121.91	100.00 %

In 2021, the share of household customers' consumption of the total final consumption is 33.50%, and the number of these customers represents 94.53% of the total number of natural gas final customers. Although the number of non-household customers represents only 5.47% of the total final gas customers, the share of the quantities consumed by them is 66.50% of the total final consumption.

Month	**No. of customers**		**Total number of customers**	**Total consumption (MWh)**
January	Household	3,953,300	4,182,330	16,609,106.139
	Non-household	229,030		
February	Household	3,962,882	4,195,354	15,047,306.081
	Non-household	232,472		
March	Household	3,973,821	4,207,486	15,036,093.635
	Non-household	233,665		
April	Household	3,984,177	4,217,365	11,235,955.223
	Non-household	233,188		
May	Household	3,993,593	4,226,368	6,823,990.139
	Non-household	232,775		
June	Household	4,007,240	4,240,787	5,524,324.013
	Non-household	233,547		
July	Household	4,018,642	4,253,351	5,252,926.561
	Non-	234,709		

	household			
August	Household	4,030,037	4,264,743	5,089,362.414
	Non-household	234,706		
September	Household	4,047,819	4,281,613	5,641,886.664
	Non-household	233,794		
October	Household	4,069,212	4,303,506	8,740,940.749
	Non-household	234,294		
November	Household	4,116,269	4,352,466	11,811,107.738
	Non-household	236,197		
December	Household	4,112,564	4,350,560	15,098,570.042
	Non-household	237,996		
Total				**121,911,569.397**



Development of the number of final customers in 2010-2021, Household, Non-household
Source: Monthly reports of final customer suppliers – ANRE processing

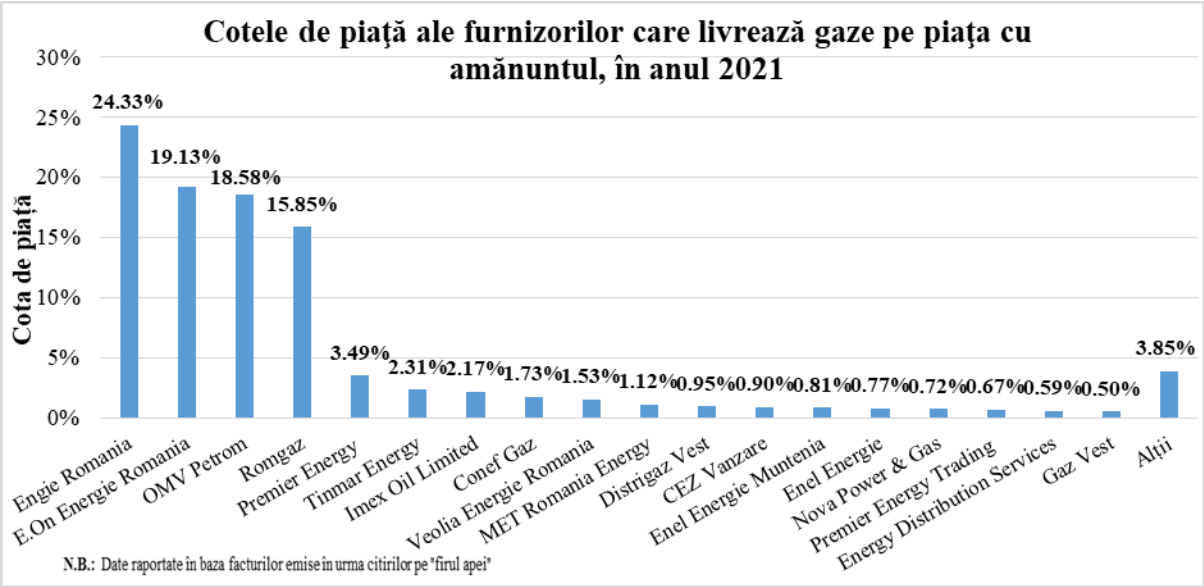
Sales prices per category of final customers, per connection system and per consumer class are as follows:

Customer type	**Connection system**	**Consumption class**	**Price (RON/MWh)**
Household final customers	Final consumers connected to upstream pipelines	A1 Annual consumption up to 280,000.00 MWh	87.80
	Consumers connected to the NGTS (SNT)	B1 Annual consumption up to 280,000.00 MWh	84.14
	Consumers connected	C1 Annual consumption up to 280.00 MWh	117.08

	to the distribution system	C2 Annual consumption between 280.01 MWh and 2,800.00 MWh	113.56
		C3 Annual consumption between 2,800.01 MWh and 28,000.00 MWh	114.35
Non-household final customers	Final consumers connected to upstream pipelines	A1 Annual consumption up to 280,000.00 MWh	119.02
		A2 Annual consumption of over 280,000.01 MWh	166.30
	Consumers connected to the NGTS (SNT)	B1 Annual consumption up to 280,000.00 MWh	136.81
		B2 Annual consumption of over 280,000.01 MWh	106.16
	Consumers connected to the distribution system	C1 Annual consumption up to 280.00 MWh	151.01
		C2 Annual consumption between 280.01 MWh and 2,800.00 MWh	145.70
		C3 Annual consumption between 2,800.01 MWh and 28,000.00 MWh	125.87
		C4 Annual consumption between 28,000.01 MWh and 280,000.00 MWh	146.93
		C5 Annual consumption of over 280,000.01 MWh	112.20

The average sales price for each category of final customers does not contain VAT, excise duties or other taxes. The average sales prices for final customers do not include tariffs for transmission, distribution and storage services.

In 2021, 75 suppliers were active on the retail gas market, whose market shares are shown in the following chart:



Market shares of suppliers delivering gas on the retail market in 2021, Note: Data reported based on bills issued as a result of meter readings

Source: Monthly reports of final customer suppliers – ANRE processing

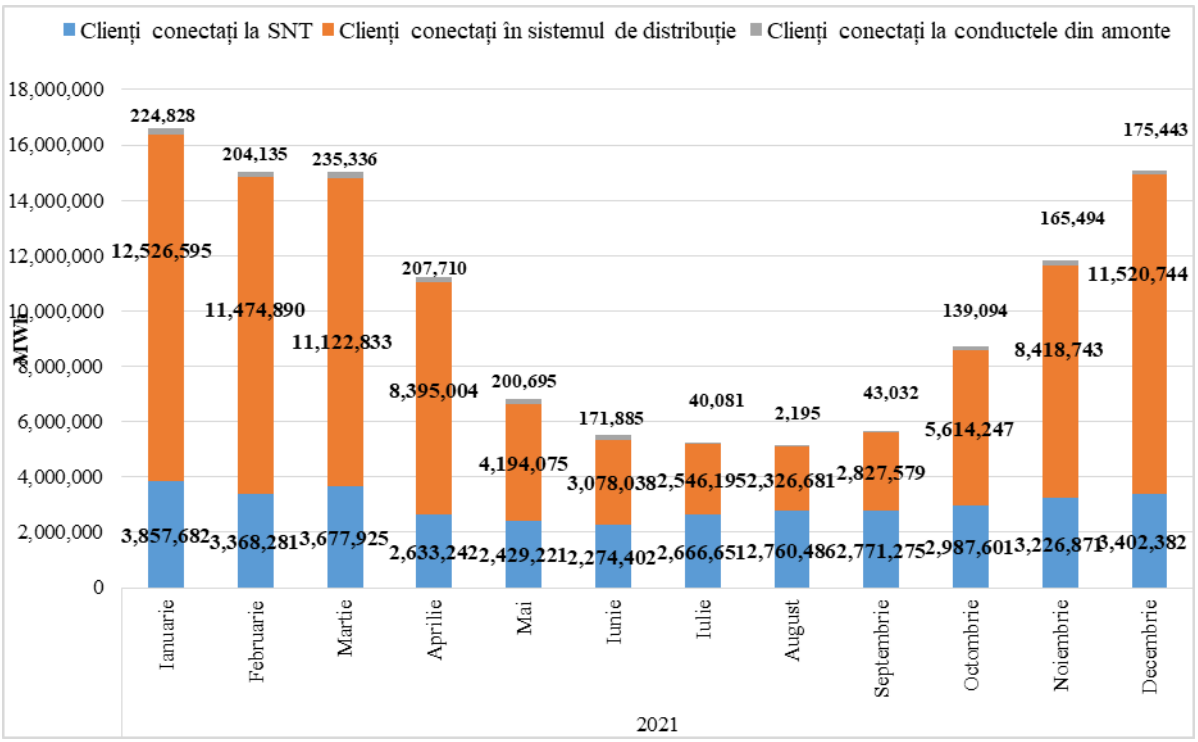
** The others category comprises 57 suppliers with a market share below 0.5% of total deliveries in the competitive retail market.*

Analysing the following chart, which shows the monthly development of the natural gas consumption achieved by the final customers throughout 2021, distinguished per type of

connection, namely, in the National Transmission System, Distribution Systems and Upstream pipelines, a smaller variation in consumption achieved by customers connected to the SNT and upstream pipelines can be observed, when compared to that achieved by customers connected to the distribution systems.

We mention that of the total number of customers connected to the SNT, the largest share of their consumption relates to the industrial customers and a smaller share is the share of other non-household customers who carry out economic activities.

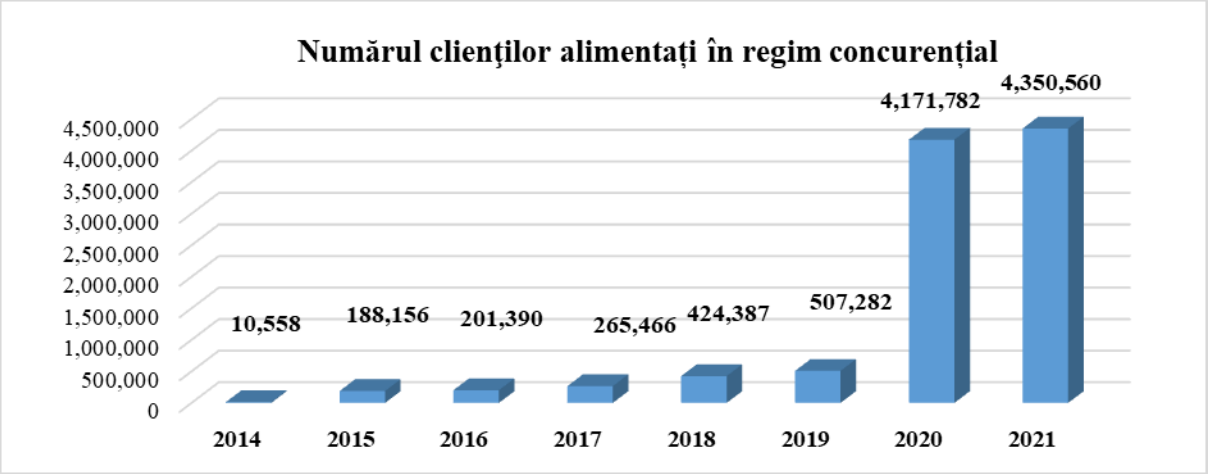
A greater variation in the gas consumption of customers connected to distribution systems can be observed compared to other connection systems, and this is due to the higher number of connected customers in distribution systems, including household and non-household customers, of which we mention industrial and other non-household customers who carry out commercial, professional and social activities.



Customers connected to the SNT, Customers connected to the distribution system, Customers connected to upstream pipelines

Source: Monthly reports of final customer suppliers – ANRE processing

The total number of final customers in December 2021 was 4,350,560. Considering that as of July 1st, 2020, the internal market for natural gas has been completely liberalized, in accordance with the provisions of Article 179 (2) (b) of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, the total number of these customers increased considerably, compared to the year before liberalization, 2019. We present an annual evolution of their number, from that time to the present:



Number of clients supplied on the competitive market
Source: Monthly reports of final customer suppliers – ANRE processing

Gas market for suppliers of last resort (SoLR)

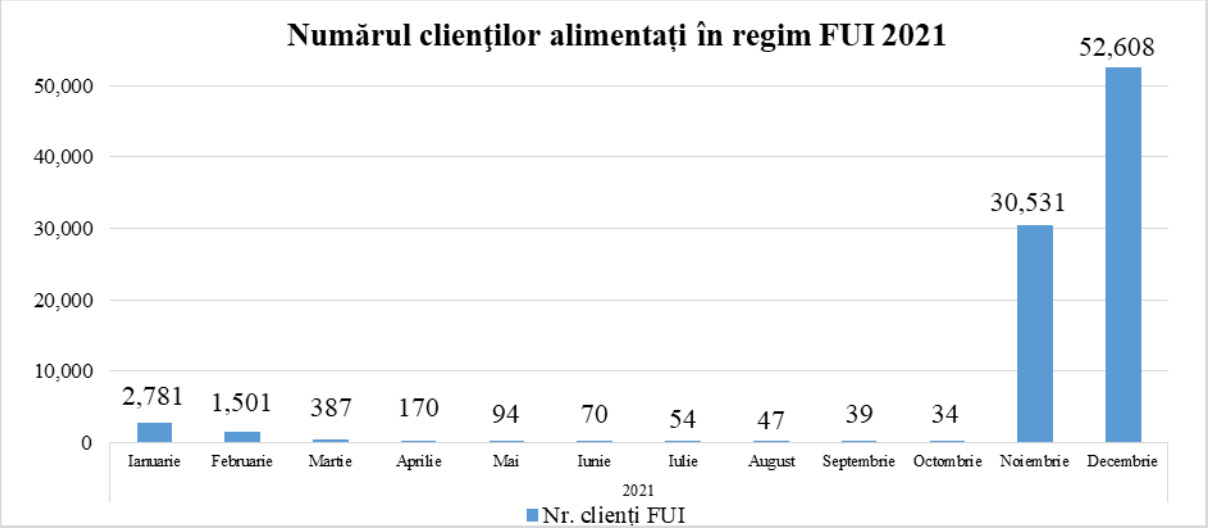
As of January 1st, 2021, 2 suppliers of last resort have activated on the natural gas market, mainly from whom information is collected on the number of customers, the average gas purchase prices, the quantities of natural gas sold to the final customers and the average selling price.

2021				
Month	No. of SoLR customers		**Total number of customers**	**Total SoLR consumption (MWh)**
January	Household	2,190	2,781	23,094.896
	Non-household	591		
February	Household	1,192	1,501	8,779.824
	Non-household	309		
March	Household	367	387	169.626
	Non-household	20		
April	Household	158	170	276.179
	Non-household	12		
May	Household	86	94	78.448
	Non-household	8		
June	Household	62	70	49.292
	Non-household	8		
July	Household	46	54	34.896
	Non-household	8		
August	Household	40	47	36.818
	Non-household	7		
September	Household	32	39	32.056

	Non-household	7		
October	Household	29	34	55.043
	Non-household	5		
November	Household	29,526	30,531	71.254
	Non-household	1,005		
December	Household	50,224	52,608	101,712.524
	Non-household	2,384		
Total				134,390.856

Source: Monthly reports of final customer suppliers – ANRE processing

The following chart shows the development of the number of final customers supplied under last resort conditions in 2021:



Number of customers supplied by Suppliers of Last Resort 2021, Number of SoLR customers
Source: Monthly reports of final customer suppliers – ANRE processing

The results of the monitoring activity can be accessed on the ANRE website, within the ***Monthly reports on the natural gas market.***

VII. CONTROL ACTIVITY

I. COMPLAINT HANDLING ACTIVITY

1. Complaint handling activity

The analysis and formulation of the answers regarding the issues described in the complaints was carried out under the provisions of the *Procedure on solving the complaints of interested parties in the energy sector*, approved by means of ANRE Order no. 194/2020 and the legislation applicable to the electricity and natural gas sectors.

The manner in which complaints were handled was different, depending on the issues addressed: from written answers containing clarifications, explanations and references to the legislation in force, requests for verification and settlement sent directly to the economic operators involved, to direct discussions with the parties involved.

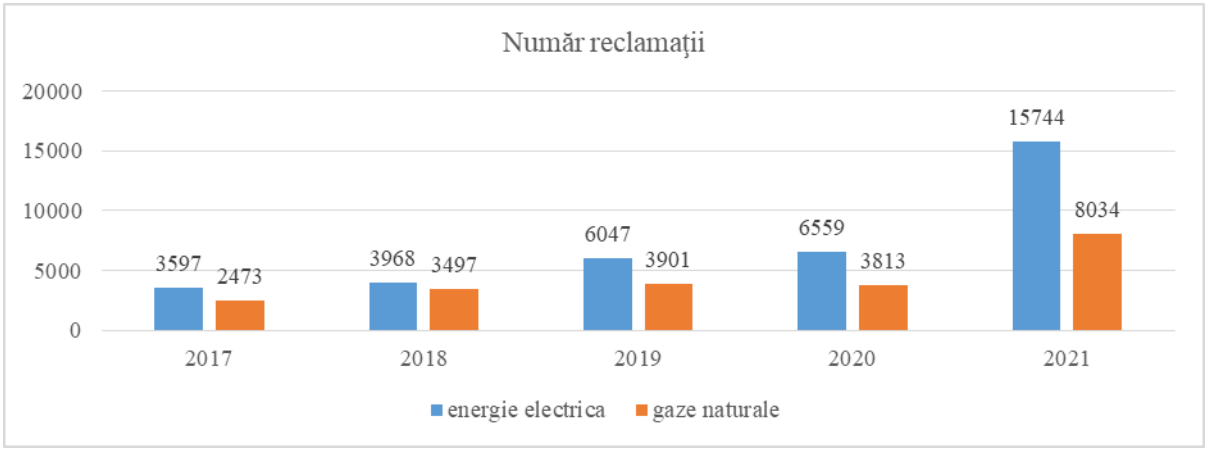
If the issues raised in the complaints regarding the failure to comply with legal provisions by the participants in the electricity market proved to be justified, ANRE sent the

latter warning letters, by means of which measures of compliance with the legal provisions in force were established and legal measures were taken to apply certain contravention sanctions.

In 2021, a number of **23778** complaints filed by natural persons and legal entities benefiting from the services provided by economic operators in the electricity and natural gas sectors were registered and solved at ANRE level. In the electricity sector, **15744** complaints were registered, and in the natural gas sector, **8034** complaints. Compared to 2020, there has been an increase in the number of complaints, namely by **240%**, generated by the issues encountered by electricity consumers in the competitive electricity and natural gas market, most often issues related to electricity contracting and billing, the increase in prices of both electricity and natural gas, issues with connection to natural gas/electricity systems/networks, as well as the manner in which new legislative provisions have been implemented.

There were **646 notification letters** drawn up, that were sent to the Territorial Control Division of ANRE, in situations in which there were violations of the legislation in force, and 53 requisition notifications for complaints that required additional checks regarding the violation of the legislation, thus control actions being requested.

All received complaints were resolved within the legal term and in accordance with the provisions of the regulations in force, with the notification of the petitioners and the institutions by means of which they were transmitted to ANRE, as the case may be.



Number of complaints, electricity, natural gas

The main issues raised by the complainants are set out in the following tables and are under consideration to identify, where appropriate, the legislative provisions that should be amended, in order to improve the services provided to customers, in order to increase their satisfaction.

Electric power

Crt. No.	Main issues raised	Value	[%]
1	Electricity billing in the competitive market	4480	26.29 %
2	Electricity contracting in the competitive market	4314	25.32 %
3	Continuity of electricity supply	990	5.81 %
4	Change of supplier	880	5.16 %

5	Connection - connection works	703	4.13 %
6	Electricity billing - regulated market	508	2.98 %
7	Issue with technical notification/connection certificate	490	2.88 %
8	Electrical voltage quality	468	2.75 %
9	Defective metering group	356	2.09 %
10	Installation of metering group	315	1.85 %

Natural gas

Crt. No.	**Main issues raised**	**Number of petitions**	**[%]**
1	Price	2526	31 %
2	Connection to the system	2202	27 %
3	Contracting	796	10 %
4	Installations for use (checks/revisions, detectors)	839	10.5 %
5	Billing	787	9.8 %
6	Change of supplier	276	3.5 %
7	Supplier of last resort	156	2 %
8	Metering	201	2.5 %

2. Activity of settling pre-contractual disagreements

In 2021, no request was registered for the settlement of misunderstandings that occurred at the conclusion of the electricity supply contracts, based on the provisions of the *Procedure for the settlement of disagreements that occurred at the conclusion of contracts in the energy sector*, approved by means of ANRE Order no. 128/2020.

3. Complaint handling activity for complaints lodged against network operators

In 2021, 5 complaints lodged against certain network operators were registered and settled, in accordance with the provisions of the *Regulation on the settlement of complaints against network/system operators in the energy field*, approved by means of ANRE Order no. 150/2015, and 1 (one) complaint, in accordance with the provisions of the *Regulation on the settlement of complaints against network/system operators in the energy sector*, approved by means of ANRE Order no. 47/2021, which repealed Order no. 150/2015, as of July 08th, 2021.

II. CONTROL ACTIVITY

The control activity of the National Energy Regulatory Authority (ANRE) is carried out through the Territorial Control Division (DCT), within the General Control Division (DGC).

This activity was carried out on the basis of the tasks established by the legislation in force and was carried out in accordance with the annual control program, approved by the President of ANRE, through inspection-type control actions and, additionally, through control actions related to verification and supervision, resulting from the current activities of the specialized departments within ANRE.

In **2021**, **393** inspection-type control actions were carried out.

The control activity was carried out according to the annual control program and was carried out on the basis of the tasks established by the legislation in force.

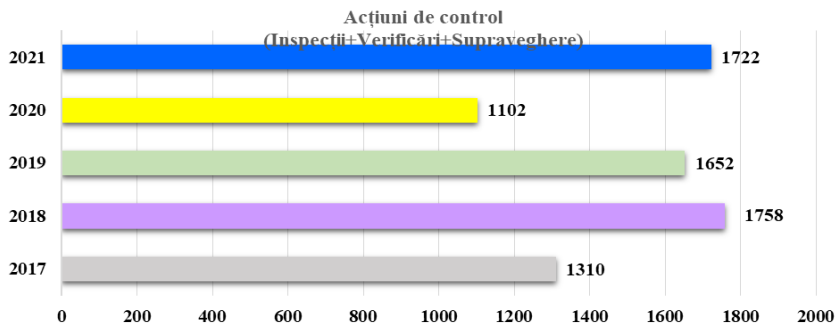
In addition to the inspection-type control actions provided for in the 2021 control program, the following have also been carried out: **125** verification-type control actions and **1204** supervision-type control actions.

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

The status of the control actions, per categories of economic operators subject to control, is shown in the following table:

Control action type	**Licensed**		**Certified/Authorized**		**Renewable energy**		**Thermal energy**	**Others**	
	Electric power	**Natural gas**	**Electric power**	**Natural gas**	**Licensed (CV certification)**	**Licensed CV obligations**		**Electric power**	**Natural gas**
Inspection	23	7	221	138	2	0	2	0	0
393									
Verification	60	38	3	18	1	0	0	4	1
125									
Supervision	864	256	2	21	28	17	15	1	0
1204									
Subtotal	947	301	226	177	31	17	17	5	1
Total	**1248**		**403**		**48**		**17**	**6**	

The development of the total number of control actions carried out by ANRE in the last five years is shown in the following chart:



Control actions (inspections + verifications + supervision)

The topics of the control actions, carried out with license holders in the field of electricity and natural gas, consisted mainly in checking the compliance with the legal provisions in force regarding:

- the organization and operation of telephone centres (call-centre);
- the obligation to communicate to the applicant, in writing, within a maximum of 15 business days from the date of receipt of the application, an offer on the conditions for the supply of electricity on the competitive market;
- the obligation to conclude the electricity supply contract within 5 days from the date of transmission by the final customer of the necessary documents.
- the frequency of issuance of the bill for electricity supplied to the universal service final customers;
- the method of billing between two consecutive readings of the meter by the network operator;
- informing the household customers from the portfolio regarding the universal service offer, the applicable own competitive offers and the right of the customers to conclude a contract for the supply of electricity on the competitive market with any licensed supplier;
- connection of prosumers to electricity grids;
- the obligation to respond, within 15 days, to final customers' complaints regarding the billing of the gas supply service;
- development and publication of standard gas supply offers;
- the correct transfer of information from standard gas supply offers into supply contracts concluded as a result of the acceptance by final customers of said offers;
- notification to the final customer regarding the intention to modify and / or supplement the contractual terms / clauses, as well as to increase the practiced price / tariff;
- provision of transparent information to final customers;
- compensation to final customers for non-compliance with the indicators of the electricity performance standard;
- compensation to final customers for non-compliance with the indicators of the gas performance standard;
- updating the technical characteristics of the licenses for the operation of upstream supply pipelines related to natural gas production;
- updating the technical characteristics of natural gas distribution systems;
- the obligation to purchase green certificates;
- certification of compliance of photovoltaic and/or wind power plants;
- consistency between the technical characteristics of the main equipment in the field that are components of the accredited power plants for the generation of electricity from renewable energy sources;
- design, verification, execution, acceptance and commissioning of natural gas installations;
- design, verification, execution, acceptance and commissioning of electrical installations;
- compliance with the validity conditions of the certificates and authorizations held in the electricity and natural gas sector.
- design, verification, execution, acceptance and commissioning of natural gas installations;
- design, verification, execution, acceptance and commissioning of electrical installations;
- compliance with the conditions of validity of the certifications and authorizations held.

As a result of the control actions carried out, in 2021, **994** minutes were drawn up for the identification and sanctioning of offenses (569 in the field of electricity, 301 in the field of natural gas, 112 in the field of renewable energy and 12 in the field of thermal energy), and for the identified irregularities, a number of **2911** contravention sanctions were implemented, distributed as follows:

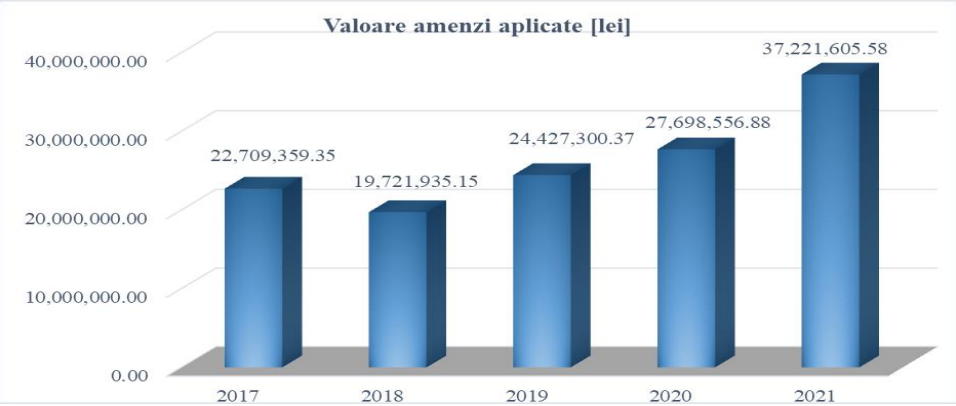
- **1983** in the field of electricity;
- **794** in the field of natural gas;
- **122** in the field of renewable energy;
- **12** in the field of thermal energy.

By means of the minutes for the identification and sanctioning of offenses, fines were imposed in the amount of **RON 37,221,605.58**.

Out of the total of 994 minutes for the identification and sanctioning of offenses, 4 were applied to natural persons / authorized natural persons / individual enterprises and 990 were applied to economic agents, legal entities.

The manner of distribution of contravention sanctions and the amount of fines imposed is highlighted in the following table:

Distribution of sanctions per types of economic operators		
Economic operator type	**Total penalties applied**	**Total amount of fines imposed (lei)**
EE-licensed	1966	13,470,000.00
GN-licensed	729	6,235,000.00
ET-licensed	12	0.00
Certified EE	10	45,000.00
Authorized GN	63	180,000.00
Certified CV	18	1,328.65
Licensed EE – CV payment obligations	104	17259276.93
Other EE (private individuals, authorized natural persons, developers, DSO)	7	1,000.00
Other GN (private individuals, authorized natural persons, developers, DSO)	2	30,000.00
Total	**2911**	**37,221,605.58**



Total applied fines in RON

The main acts perpetrated by natural persons/legal entities subject to control actions, for which contravention sanctions were applied in 2021, consisted of non-compliance with the legal provisions regarding:

- billing of electricity and natural gas consumption to final customers;
- obligations of suppliers in the process of switching suppliers of electricity and natural gas;
- transmission of the offer and conclusion of the electricity supply contract
- the obligation to purchase/pay the value of green certificates not purchased by the economic operators licensed in the field of electricity;
- performance indicators set by performance standards for electricity and natural gas distribution services, electricity and natural gas supply activities,
- access to natural gas distribution systems;
- connection to electrical networks of public interest;
- connection to the natural gas distribution system;
- design, verification, execution, acceptance and commissioning of natural gas installations;
- supply of electricity to household final customers, using electrical installations designed for connection of the site organization;
- design, verification, execution, acceptance and commissioning of electrical installations;
- certification of compliance of photovoltaic and/or wind power plants;
- consistency between the technical characteristics of the main equipment in the field that are components of the accredited power plants for the generation of electricity from renewable energy sources;
- Failure to provide/present the data, documents and/or information requested, within the deadlines set by ANRE, or providing/presenting them in an incomplete or erroneous form, as well as/or failure to carry out the measures within the deadlines ordered by ANRE and/or unjustified refusal to comply with the call notice addressed by ANRE.

VIII. INVESTIGATIONS

Records of investigations concluded in 2021

The investigation activity is carried out on the basis of the provisions of Article 9, paragraph (1) letter y) and letter z), as well as of Article 10 paragraph (1) letter b) and paragraph (6) letter d) of Government Emergency Ordinance No. 33/2007, on the organization and functioning of the National Energy Regulatory Authority, approved with amendments and completions by means of Law no. 160/2012, with subsequent amendments and completions, namely of the provisions of Art. 84 and Art. 183 of the *Law on electricity and natural gas no. 123/2012*, with subsequent amendments and completions.

At the same time, the investigation activity within ANRE is carried out in accordance with the provisions of the *Regulation for the organization and conduct of the investigative activity in the field of energy on the functioning of the wholesale energy market*, approved by means of ANRE Order no. 25/2017, with subsequent amendments and completions.

At European level, the rules prohibiting abusive practices affecting wholesale energy markets are consistent with the rules applicable to financial markets and the proper functioning of wholesale energy markets, set out in *Regulation (EU) no. 1227/2011 of the*

European Parliament and of the Council of 25.10.2011, on the integrity and transparency of the energy market (REMIT).

Starting from the legal basis presented above, the investigation structure within ANRE ensures:

a) Performance of investigations, according to the law, *ex officio*, in response to a registered complaint, filed by a natural person or legal entity affected in a real and direct manner by a potential violation of the legal provisions regarding the proper functioning of the wholesale electricity and natural gas market, as well as at the request of ACER, only in areas where ANRE has the competence to investigate according to the law.

b) Pursuit of market rules and promotion of open and fair competition in the wholesale electricity and natural gas market for the benefit of final customers and removal and/or elimination of behaviours that affect the integrity and transparency of the wholesale energy market.

c) Direct correspondence with ACER regarding investigations initiated, ongoing and/or finalized on wholesale electricity and natural gas markets, as a result of cases notified in the ACER Notification Platform regarding the infringement of REMIT provisions.

d) Elaboration of the procedure on the establishment and individualization of sanctions related to turnover by the Regulatory Committee of ANRE.

In 2021, ANRE concluded a number of 13 (thirteen) investigations in what concerns electricity producers and suppliers, license holders, who carry out activities on the wholesale electricity and natural gas market, all of which were triggered in 2020. The purpose of the investigations carried out by ANRE was to verify the compliance of the participants in the wholesale energy market with the provisions of *Regulation (EU) no. 1227/2011 of the European Parliament and of the Council of October 25th, 2011 on the integrity and transparency of the wholesale energy market (REMIT),* as well as other specific European regulations, as the case may be.

As a result of the 13 (thirteen) investigative actions conducted, ANRE sanctioned a number of 10 (ten) participants in the wholesale electricity market, with fines in total amount of RON 5,600,000, of which:

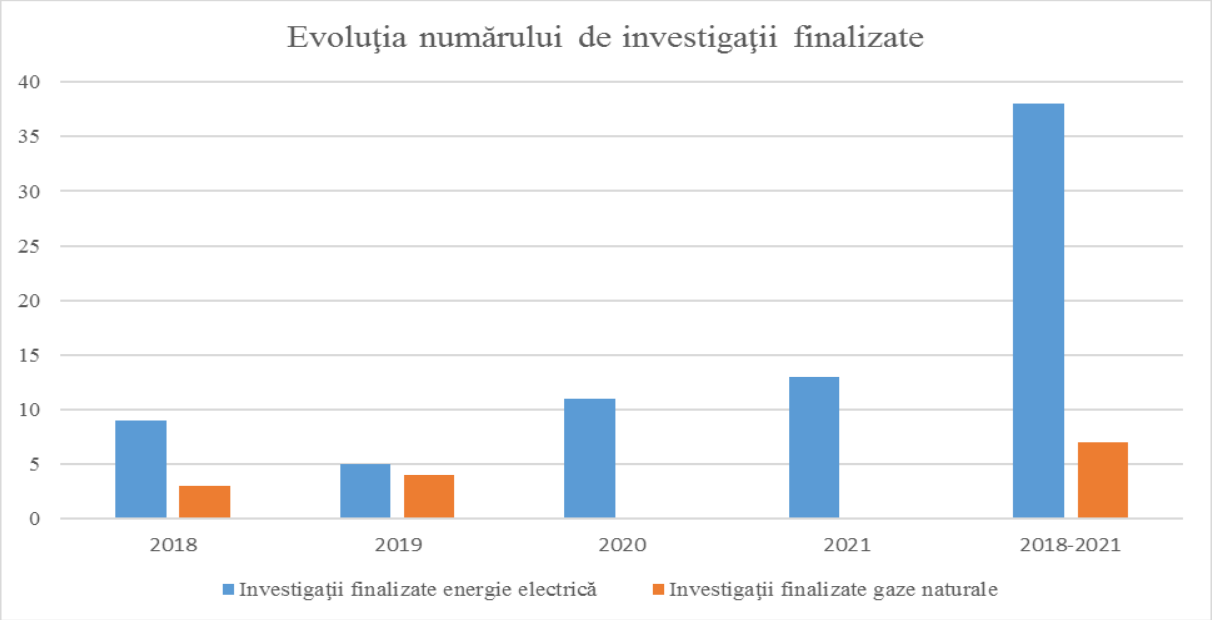
a) 8 (eight) participants with 10 sanctions in the amount of RON 400,000 each; two participants were sanctioned twice;
b) 2 (two) participants with sanctions in the amount of RON 800,000 (each participant had 2 contravention deeds).

These economic operators have been sanctioned for violating the provisions of Article 5 of *REMIT*. The investigated economic operators had carried out transactions on the wholesale electricity market classified as "*market manipulation"*, which are likely to give false or misleading indications of "*supply, demand or price of wholesale energy products*", as provided for in Article 2(2)(a)(c) sub-item (i) of the previously mentioned normative act.

The development of the number of investigations conducted between 2018 and 2021 is presented in table and graph form. For electricity, it is found that the number of investigations completed in 2021 represents the maximum of the period.

Evoluţia numărului de investigaţii finalizate

Perioadă	2018	2019	2020	2021	2018-2021
Investigaţii finalizate energie electrică	9	5	11	13	38
Investigaţii finalizate gaze naturale	3	4	0	0	7
Total investigaţii finalizate	12	9	11	13	45



Development of the number of concluded investigations

Records regarding investigations initiated in 2021

In 2021, ANRE **initiated / triggered another 22 (twenty-two) investigations** of wholesale participants in the energy market, of which **a number of 16 investigations have been completed so far.**

As of 25.09.2020, the penalties imposed on wholesale energy market participants have been increased, so that wholesale energy market participants who manipulate or attempt to manipulate the wholesale energy market are fined in the amount of 5-10% of the turnover of the year before the penalty was imposed, without the possibility of paying half of the minimum fine.

Participation with points of view for draft primary legislation

In 2021, the Investigations division, together with other departments within ANRE, participated with observations and proposals in the elaboration of the draft amendment of the Law on electricity and natural gas no. 123/2012, with subsequent amendments and completions, by means of Government Emergency Ordinance no. 143/2021 amending and supplementing the Law on electricity and natural gas no. 123/2012, as well as amending certain normative acts.

During 2021, the Investigations division participated whenever it was requested to develop primary and/or secondary legislation in the field of electricity and natural gas, coming up with concrete proposals in this regard each time.

Regulatory activity

In 2021, the draft order on the amendment and completion of the Regulation for the organization and conduct of the investigation activity in the field of energy on the operation of the wholesale energy market was elaborated, approved by means of Order of the National Energy Regulatory Authority no. 25/2017, with subsequent amendments and completions. It was approved on 24.03.2021 by means of ANRE Order no. 22/2021.

Cooperation with the Agency for the Cooperation of Energy Regulators (ACER)

In accordance with the provisions of the Regulation on the organization and functioning of the National Energy Regulatory Authority, the *Investigations division* of ANRE ensures permanent correspondence/communication with the Agency for the Cooperation of Energy Regulators (ACER) regarding the initiated/triggered, ongoing and/or finalized investigations on wholesale electricity and natural gas markets, as a result of cases notified in the ACER Notification Platform regarding the infringement of REMIT provisions.

The direct interface with ACER enables efficient communication with ACER representatives and members, with a view to the coherent and coordinated application of the REMIT regulation, both at national and EU level.

The nominees from the working groups organized at ACER level actively participated in the online sessions and meetings conducted by ACER throughout 2021. On this occasion, one of the investigated and closed cases was presented. The presentation was very well received and appreciated, both by the representatives of ACER and by the rest of the participants representing the other European energy regulators, being of particular interest to them, and the participants wanted to find out as many details and as much information as possible regarding the work methods and investigative activities carried out in the case, in order to ensure compliance with the REMIT regulation.

X. GENERAL SUPPORT ACTIVITIES DIVISION

Sources of funding and budget implementation

The financial statements as of 31.12.2021 were prepared based on templates approved by:

- Order of the Minister of Public Finance no. 79/2010 *for the approval of the Methodological norms regarding the preparation and submission of financial statements of public institutions on December 31st, 2009.*
- Order of the Minister of Public Finance no. 629/2009 for the approval of the Methodological norms regarding the preparation and submission of quarterly financial statements of public institutions, as well as of monthly financial reports in 2009.
- Order of the Minister of Public Finance no. 82/ 2016 *for the approval of the Methodological norms regarding the preparation and submission of the financial statements of public institutions on December 31st, 2015, for the amendment and completion of the Methodological norms regarding the organization and management of the accounting of public institutions, the Plan of accounts for public institutions and the instructions for its application, approved by means of Order of the Minister of Public Finance no. 1.917/2005, as well as for amending and completing other methodological norms in the field of public accounting*;
- Order of the Minister of Public Finance no.494/12.04.2021 *on the transmission of centralized quarterly financial statements prepared by public institutions and for amending and completing certain Orders of the Minister of Public Finance in the field of public institutions accounting.*
- Order of the Minister of Public Finance no. 6/4.01.2022 *on transmission of the centralized annual financial statements prepared by the public institutions on December 31st, 2021 and for the completion of Annex no. 2 to the Order of the Minister of Public Finance no. 1.177/2018 for the approval of the Methodological norms regarding the preparation and submission of the financial statements of public institutions on December 31st, 2017 and for the amendment of other norms in the field of accounting*

The financial statements were drawn up based on the trial balance of synthetic accounts on December 31st, 2021, aligned with the trial balance of analytical accounts and following the analysis of the balances of booked accounts. The annual inventory of the patrimony took place between 01.10.2020 and 31.10.2020 and had, as main purpose, the establishment of the actual status of all elements such as assets, liabilities and capital, as well as of the goods and assets held under any title. According to Inventory minutes no. 132705/08.11.2021, no pluses or minuses were found in the inventory.

Within the institution, no deviations from the following principles were observed:

Principle of business continuity - implies that our institution normally continues its activity in a foreseeable future, without going into liquidation or undergoing a significant reduction in terms of activity.

Principle of permanence of methods - the same methods have been used from one financial year to another, thus ensuring the consistency of accounting information over time and allowing the comparability of information over time.

Principle of prudence - whereby the valuation of assets and liabilities must be carried out on a prudent basis.

Principle of accrual accounting - the effects of transactions and other events have been recognized when they occurred and not as cash is collected or paid and have been recorded in the accounting records of the reporting period. This principle is based on the independence of the appropriate financial year to which the revenue and expenditure relate, without taking into

account the date of revenue collection or the date of expenditure payment. Revenues and expenditures were delimited and recorded in the accounts in real terms (movement of goods and services) and not in monetary terms (monetary movement).
Principle of separate valuation of asset and liability items - according to which the comparison of asset or liability items is to be assessed separately.
Principle of intangibility of the opening balance sheet - the closing balance sheet of the previous year is equal to the opening balance sheet of the current year.
Principle of non-compensation - we have taken into account the fact that any compensation between asset and liability items or between expenditure and revenue items is not allowed, except as permitted by legal regulations.
Principle of comparability of information - according to which the presented elements must enable the information to be compared over time.
Principle of materiality - requires that the financial statements clearly highlight any item of significant value or global position items with similar functions and insignificant amounts, as well as information, the importance of which may affect valuations and decisions.
Principle of the prevalence of the economic over the legal aspect (reality over appearance) - the accounting information presented in the financial statements is credible, respects the economic reality of events or transactions, not only their legal form.
Accounting policies - define the accounting concept for each public institution in solving all financial problems. They incorporate the specific principles, bases, conventions, rules and practices adopted by an entity in the day-to-day management of its activities for the preparation and presentation of financial statements.

Within the institution, the financial-accounting documents circuit was organized by developing the procedure for organizing the preventive financial control activity. The commitment, liquidation, authorization and payment of expenses was carried out in compliance with the provisions of MFP Order no. 1792/2002 and the operational procedure issued within ANRE.

The information contained in the financial statements is relevant to management needs in what concerns making economic, credible, comparable and intangible decisions.

Financial institutions provide a true picture of assets, liabilities, the relevant financial position, as well as financial performance and patrimonial outcome.

EXPLANATORY NOTES

1. ANALYSIS OF BALANCE SHEET ITEMS

The balance sheet as of 31.12.2021, as a summary document of assets and liabilities, shall have the following structure:

INDICATORS' NAME	Balance as of 31.12.2021 (RON)
I. Non-current assets, of which:	**27,724,776**
1. Intangible fixed assets	9,227,575
2. Tangible fixed assets	5,071,686
3. Land and buildings	13,425,515
II. Current assets, of which:	**181,947,231**
1. Inventories	2,618,270
2. Debts from commercial operations	11,623,978
3. Budgetary debts	714,474
4. FEN claims	374,480
5. Short-term loans	0

6. Money availability	166,561,278
7. Expenses in advance	53,026
A. TOTAL ASSETS (I+II)	**209,672,007**
III. Non-current debts	**30,383**
IV. Current liabilities, of which:	**14,312,087**
1. Commercial debts and advances	3,623,400
2. Debts to the budget	4,879,509
3. Salaries of employees	5,168,337
4. Debt from operations with external funds	640,841
5. Short-term loans	0
B. TOTAL LIABILITIES (III+IV)	**14,342,470**
NET ASSETS (A-B)	**195,329,537**
V. Equity, of which:	**195,329,537**
1. Reserves and funds	10,296,639
2. Carried over result	143,906,087
3. Financial results of the reporting period - surplus	41,126,811

I. Non-current assets

Intangible fixed assets

The financing of the capital expenditures of ANRE shall be ensured entirely from its own revenues.

In the income and expenditure budget for 2021, capital expenditures in the amount of **RON 13,807,161** were provided, of which intangible assets **RON 9,483,418.**

Tangible fixed assets

Reflected in the accounts from Group 21, as follows:

- 211 land and land plot developments,
- 212 constructions,
- 213 technical installations, means of transport, animals and plantations,
- 214 furniture, office equipment, equipment for protecting human and material assets and other tangible assets.

Fixed assets are presented in the balance sheet at net value and at input value, respectively, less the cumulative depreciation adjustments.

-RON-

Elements of assets	**Accounting value**				**Depreciation**				**Net worth**
	Balance at 01.01.2021	**Increases**	**Reductions**	**Balance at 31.12.2021**	**Balance at 01.01.2021**	**Increases**	**Reductions**	**Balance at 31.12.2021**	
	1	2	3	4=1+2-3	5	6	7	8=5+6-7	9=4-8
Other intangible assets	5,893,391	14,160,556	5,419,469	14634.478	4,926,459	550,773	70,329	5,406,903	9,227,575
Private sector construction	9,385,167	0	0	9,385,167	283,200	277,051	0	560,251	8,824,916
Technical installations, means of transport	8,561,036	5,102,800	4,152,112	9,511,724	4,883,087	1,427,855	954,154	5,356,788	4,154,936
Furniture, office furniture, protective equipment	2,677,860	669,941	502,441	2,845,360	1,672,882	348,040	92,312	1,928,610	916,750
TOTAL	**26,517,454**	**19,933,297**	**10,074,022**	**36,376,729**	**11,765,628**	**2,603,719**	**1,116,795**	**13,252,552**	**23,124,177**

Changes in the structure of tangible assets

Asset elements	Accounting value (RON)			
	Balance at 01.01.2021	**Increases**	**Reductions**	**Balance at 31.12.2021**
	1	*2*	*3*	*4=1+2-3*
Lands	927,732	0	0	927,732
Construction in the public domain	3,672,867	0	0	3,672,867
TOTAL	**4,600,599**	**0**	**0**	**4,600,599**

The structure of non-depreciable intangible and tangible assets

Fixed tangible and intangible assets are presented in the balance sheet at the net carrying amount obtained by deducting the cumulative depreciation from the inventory value.

As of 31.12.2021, the net carrying amount of fixed assets is **RON 27,724,776.**

II. Current assets

Inventories are material goods intended to be used at their first use, made up of consumable materials, supplies and other goods necessary for the performance of the institution's business.

Entry valuation of the inventories shall be carried out at the purchase cost, which shall include the purchase price, including import duties and other non-recoverable purchase taxes, transport and handling costs and other ancillary costs directly attributable to the purchase, except for rebates, discounts and deductions received from suppliers.

Exit valuation of inventories is carried out according to the FIFO method, i.e. “first in – first out”.

The goods that have exited inventory shall be valued at the purchase cost of the first entry (lot), as the lot is exhausted, the outgoing stocks shall be valued at the purchase cost of the next lot, in chronological order.

Materials such as inventory items, goods with a value lower than the limit stipulated by law to be classified as tangible assets, or with duration of less than one year, regardless of their value, are also included in the sphere of inventories. The records of materials such as inventory items shall be kept on two accounts: materials representing inventory items in the warehouse (account 303 01) and materials representing inventory items in use (account 303 02).

The recording in the expenditures of their consumption shall be conducted at the time when they are used for consumption, except for materials related to inventory items whose cost is recognized at the time of their decommissioning.

On 31.12.2021, ANRE registers inventories amounting to **RON 2,619,995**, having the following composition:
-RON-

	Balance at 01.01.2021	**Entries**	**Exits**	**Balance at 31.12.2021**
Fuel (account 30202)	4,414	146,800	146,412	4,802

Spare parts (account 30204)	0	0	0	0
Other consumable materials (account 30208)	169,276	395,776	346,222	219,830
Total account 302	**173,690**	**543,576**	**492,634**	**224,632**
Account 303				
Materials such as inventory items in the warehouse (ac 303 01)	22,552	262,666	280,062	5,156
Materials such as inventory items in use (account 303 02)	2,252,952	484,225	346,970	2,390,207
Total account 303	**2,275,504**	**748,891**	**627,032**	**2,395,363**
Total stocks	**2,449,194**	**1,290,467**	**1,119,666**	**2,619,995**

Current debts outstanding at the end of the reporting period amount to **RON 12,712,932** and represent:

-RON-

Claims from commercial transactions, advances	11,623,978
Budgetary claims	714,474
FEN claims	374,480
Short-term loans	0

The balance of the 411 *Clients* account in the amount of **RON 12,885,985** represents the uncollected receivables related to the activity of ANRE, representing tariff bills and contributions issued to economic operators and individuals, with a term of collection under one year.

The credit balance of the account 491 *Adjustments for the impairment of receivables* in the amount of **RON 3,607,659**, represents receivables with low probability of collection from the economic operators in dispute and insolvency.

The balance of account 473 01 09 *Settlements from operations under clarification* in the amount of **RON 2,345,652** includes:

- damages in the amount of **RON 2,247,105** paid to an economic operator on the basis of a court ruling, an amount that cannot be registered as expense until it has been clarified.
- the amount of **RON 81,174** representing interest and penalties for non-performance of a contract, for which the court has not issued a definitive ruling.
- the sum of **RON 17,373** representing legal costs.

The balance of the account 461 01 02 *Debtors under 1 year* is worth **RON 714,474** and represents amounts to be collected from the Health Insurance Fund Bucharest.

The balance of account 450 05 *Settlements from operations under clarification - Debts / claims from operations with FEN* is worth **RON 374,480** and represents the amounts advanced by ANRE for the recovery of which reimbursement requests will be drafted.

Analysis of receivables reflected in the accounts of commercial receivables and advances

According to the commitments accounts, the recording in the accounts of receivables is made at the time of the establishment of the rights represented by the object of activity of the institution, namely from the fees charged for the granting of licenses, authorizations and notifications, for the provision of services, as well as from the contributions of economic

operators in the energy, natural gas and energy efficiency sector or from funds granted by international bodies.

We present the status of commercial claims:

- RON -

Claims	**Balance at 01.01.2021**	**Claims identified**	**Claims received**	**Settlement through other ways**	**Balance of 31.12.2021**
0	1	2	3	4	5
Customers for less than 1 year	4,119,939	119,952,258	123,034,630	0	1,037,567
Uncertain or disputed customers	7,195,818	5,796,721	987,231	156,890	11,848,418
Adjustments for the depreciation of receivables	(3,621,306)	0	(13,646)	0	(3,607,660)
Debtors - commercial claims	81,174			81,174	0
Total commercial claims	**7,775,625**	**125,748,979**	**124,008,215**	**238,064**	**9,278,325**

Commercial claims and advances are worth **RON 9,278,325** and correspond to the balances of customer accounts as of 31.12.2021.

Provisions for the depreciation of debts amounting to **RON 3,607,659** were set up for uncertain or disputed clients.

Cash availability and other values

The cash availability in the balance at the end of the reporting period amounts to **RON 184,454,801**, as follows:

-RON-

Treasury accounts, of which:	
- Account availability tender guarantees	55,796
- Availability from external funds	356,241
- Availability of public institutions funded entirely from own income	166,119,858
- Short-term loans	0
- Cash account in RON	0
- Treasury advances	0
- Interest receivable	0
Availability at commercial banks of which:	**29,383**
- Availability from special purpose funds (management guarantees)	29,383
Total availability	**166,561,278**

As it is revealed from the analytical presentation of the amounts available in the accounts opened with the Treasury and with credit institutions in the name of ANRE, on 31.12.2021, the money availability amounts to **RON 166,561,278**.

Expenses booked in advance

On 31.12.2021, the balance of account 471 *Expenses booked in advance* in the amount of **RON 53,026**, of which:

- **RON 42,250** annual RCA and CASCO insurance paid by the institution for cars, which in the next period will be gradually registered at the related expense;
- **RON 10,776** equivalent of the subscription for 2021 to the Insolvency Bulletin, the Official Journal.

III. Non-current liabilities represent amounts to be paid after a period of more than 1 year. On 31.12.2021, ANRE registered non-current debts amounting to **RON 30,383** representing the management guarantees established according to Law no. 29/1969 by means of monthly retention from the salary of employees who have as main duties the reception, storage and release of goods under the administration, use or ownership of the institution.

We should mention that ANRE has no *Contingent liabilities,* therefore no amounts have been recorded on the debit or credit of the account 8082 Off balance sheet.

IV. Current liabilities

ANRE registers, as of 31.12.2021, current debts amounting to **RON 14,312,087**, of which:

- **debts to suppliers** of goods and services worth **RON 525,839** representing the obligations not paid by ANRE for the purchased goods, the executed works and the services rendered, which were registered in the accounting records via the account 401 "Suppliers".
- **debts to** fixed assets **suppliers** worth **0 lei** representing the obligations not paid by ANRE for the purchased fixed assets, which were registered in the accounting records via account 404 "**Fixed assets suppliers**"
- ANRE registers in the balance of account 419 "**Clients - creditors"** the amount of **RON 3,041,765** representing amounts paid in advance by various economic agents, amounts for which, subsequently, bills will be drawn up or will be returned, if they exceed the value of the obligations of the economic agents regulated by the Authority.
- The balance of account 462 "Creditors" in the amount of **RON 55,796** represents the value of the guarantees for participation in procurement procedures.
- **debt to the state budget** amounting to **RON 4,879,509** includes:
  - ✓ employees' contributions to the state budget and the social security budget related to the salary fund for December 2021, namely CAS, CASS and the work insurance contribution due by the employer in the amount of **RON 3,272,513**;
  - ✓ income tax from salaries amounting to **RON 571,132**;
  - ✓ taxes and assimilated payments in the amount of **RON 28,497**;
  - ✓ other debts to the state budget of **RON 1,007,367.**
- **employees' salaries** of **RON 5,168,337** represent salary rights and other deductions related to December 2021 that will be paid on January 10th, 2022.
- ANRE records in the balance of account 450 06 *"Amounts advanced by the European Commission / other donors - non-reimbursable external funds post-accession*" the amount of **RON 266,361** representing amounts received from external donors for the implementation of programs financed entirely from non-reimbursable external funds.
- Account 473 01 03 *Settlements in the process of clarification – debts/receivables from operations with FEN* registers a balance of **RON 374,480**, which represent amounts advanced by ANRE for the recovery of which reimbursement requests will be drafted.

We should mention that, on December 31st, 2021, ANRE did not register any outstanding payments.

V. Equity

Reserves and funds

According to the financial statement as of 31.12.2021, the reserves and funds are worth **RON 10,296,639**, of which:

- revaluation reserves in the amount of **RON 5,696,040**, representing the value resulting from the revaluation of fixed tangible assets;
- fund of assets that make up the public domain of the state in the amount of **RON 3,672,867**, representing the building entrusted in the administration of the institution;
- fund of assets that make up the private domain of the state, worth **RON 927,732**, representing the land of the building in the private domain that is not subject to depreciation**.**

Retained earnings – the credit balance of account 117 as of 31.12.2021 is worth **RON 143,906,087** and represents the patrimonial surplus of previous budgetary years.

Patrimonial result of the reporting period

On 31.12.2021 account 121 "*Patrimonial result"* presents a creditor balance and expresses the patrimonial surplus in the amount of **RON 41,126,811.**

2. SIGNIFICANT INCREASES OF AMOUNTS REPORTED IN THE BALANCE SHEET

In accordance with the provisions of OMFP no. 629/2009 for the approval of the Methodological norms regarding the preparation and submission of quarterly financial statements of public institutions, as well as of monthly financial reports in 2009, we present the explanations regarding the significant increases / decreases of the amounts reported in the balance sheet concluded at the end of December 2021, compared to the beginning of the year, in what concerns the following indicators:

- At the beginning of 2021, ***Commercial receivables and advances*** reported in **row 22** of the balance sheet were worth **RON 7,775,625** and at the end of December 2021 they registered a higher value compared to the value at the beginning of the year, namely **RON 9,278,325 lei,** as annual contributions due by licensed economic operators and differences in contributions from green certificates and cogeneration fee for supply license holders were billed.
- From the data presented in the balance sheet under **row 61** ***Commercial debts and advances***, it is found that ANRE registered a decrease of **RON 26,465,464** at the end of December 2021, compared to the level recorded at the beginning of the year, as a result of the refund of the amounts registered in the account of 419 *Creditor clients.*
- The amounts owed by ANRE to the social security budget, highlighted in the balance sheet under **row 63.1,** ***Social contributions***, are higher by **RON 373,543** than those due at the beginning of the year, as a result of the increase of the salary fund.
- From the data presented in the balance sheet under **row 72** ***Employees' salaries***, it is noted that ANRE registered an increase of **RON 602,472** at the end of December 2021, compared to the balance at the beginning of the year, as a result of the increase of the salary fund.

PATRIMONIAL RESULT ACCOUNT

In the patrimonial result account, on 31.12.2021, there is a surplus of **RON 41,126,811**, which resulted by deducting expenses from revenues.

Revenues from operational activity achieved in January – December 2021 are worth **RON 152,258,590.**

Expenses related to the operational activity in January – December 2021 are worth **RON 111,260,558.**

Revenues from financial activity achieved in the period January - December 2021 are worth **RON 143,044.**

Financial expenses between January and December 2021 are worth **RON 13,507.**

One-off expenses between January and December 2021 are worth **RON 758.**

3. EXECUTION OF THE REVENUE AND EXPENDITURE BUDGET

The following results from the execution account of the revenue and expenditure budget of ANRE concluded on December 31st, 2021:

- **proceeds are worth RON 123,034,630**
- **net payments made are in the amount of RON 120,304,661**
- **result of the budget execution represents a surplus of RON 2,729,969**

No direct payments were made from proceeds and no change in legal destination between financing and conditional legal settlement of budgetary expenditure took place, budgetary commitments were subject to preventive financial control, before they produced consequences, or were settled as budgetary payments. This implies that the systematic verification of operational projects for legality, regularity and compliance with the budget appropriations limit has been carried out. The incurred expenses were based on supporting documents, legally drawn up, approved and controlled or confirmed based on legal competencies. The cash execution of the budget was achieved via settling, confirming and paying the commitments by means of the Public treasury. ANRE accounting ensured the registration of cash payments and actual expenses, on the subdivisions of the budget classification, according to the approved budget.

The main authorizing officer shall be responsible for the consistency of the data transmitted by electronic means and those reported in a hardcopy format in the financial statements as of 31.12.2021.

4. ORGANIZATION OF BUDGETARY COMMITMENTS' RECORDS

The records related to budgetary and legal commitments are kept within the accounting financial service, in accordance with the provisions of Order no. 1.792/2002 of the Ministry of Economy and Finance, with subsequent amendments and completions.

The records regarding the budgetary and legal commitments opened for each subdivision of the approved budget shall provide information as follows:

- In account 8060 "**Approved budget loans**", the loans approved for the performance of the expenditure approved by the budget were registered, with a breakdown per quarter, per each title, article and paragraph of expenditure;
- In account 8066 "**Budgetary commitments**", the amounts reserved for the purpose of performing certain expenses, within the limits of the provisions of the approved revenue and expenditure budget, were registered;
- Account 8067 "**Legal commitments**" recorded the amounts related to the employees' salary rights and related obligations, individual legal commitments related to goods and services, concluded with suppliers and other creditors, within the limit of the approved budget credits.

On the basis of the data provided from the analytical record of the provisions of the approved budget and of the budgetary and legal commitments, the "Statement of execution of

undertaken budget expenditure" was drawn up, per titles, articles and paragraphs of expenditure.

Public procurement

In accordance with the legal provisions stipulated in GD no. 395/2016 for the approval of the Methodological norms for the application of the provisions regarding the award of public procurement contracts / framework agreements of Law no. 98/2016 on public procurement, with subsequent amendments and completions, the **Public Procurement Service** is ***the internal department specialized in the field of procurement***, which is organized in accordance with the provisions of Article 2 (1) of GD no. 395/2016, with subsequent amendments and completions.

Throughout 2021, the following main activities were carried out:
1. drafting of the Annual Public Procurement Program/2021 based on the requirement reports drawn up by the beneficiary departments of ANRE, in conjunction with the revenue and expenditure budget and the Investment list approved for 2021;
2. awarding of a number of 233 contracts/orders for public procurement of products/services/works;
3. organization of procurement procedures, of which:
- initiated and completed - a number of 4 (four) online open tender procedures for the award of contracts for the supply of passenger cars, voluntary health insurance services, IT equipment supply and service provision "Achievement and implementation of an online platform for switching the electricity and natural gas supplier at national level (POSF)";
- initiated and completed - a number of 2 (two) simplified online procedures for awarding contracts for the provision of services for the supply of information via Call Centre and for the provision of cleaning services;
- initiated and completed - procurement procedures based on internal procedural rules, for the award of contracts for the provision of security services, occupational medicine services, postal services and archiving services.

Legal aspects, ANRE orders and decisions

Throughout 2021, as a result of the constant dynamics of the sector, the regulatory activity of ANRE was maintained at a high level, in the exercise of the powers and competences expressly stated by the provisions of GEO no. 33/2007; as such, numerous normative acts applicable to the electricity, thermal energy and natural gas markets were adopted. At the same time, based on the prerogatives provided by the law, ANRE has also issued administrative acts of an individual nature, which aim, for example, to issue/modify/withdraw licenses, authorizations and certificates, to approve the prices and tariffs applicable by economic operators, to apply the bonus-type support scheme and the green certificates' promotion system, etc.

Also, within the scope of the Authority's priorities, one must mention the objective of standardizing ANRE regulations, by means of implementing a unitary approach to the areas of activity within its scope of competence, and the objectives of updating ANRE regulations, in order for them to be in line with the current technical and commercial realities and the requirements to encourage the development of renewable energy production capacities, and, implicitly, to stimulate the supply of green energy, as well as to protect consumers and ensure wide access to electricity and gas networks. As an example, we mention: *ANRE Order no. 15/2021 approving the Procedure for connection to the public interest electricity grids of consumption and production sites belonging to prosumers who have installations for the generation of electricity from renewable sources with installed power of no more than 100*

kW per consumption site (document currently repealed, as a result of the amendment of the primary legislation), ANRE Order no. 46/2021 on the approval of the Performance standard for the electricity distribution service, ANRE Order no. 83/2021 on the approval of the Performance standard for the electricity / natural gas supply activity.

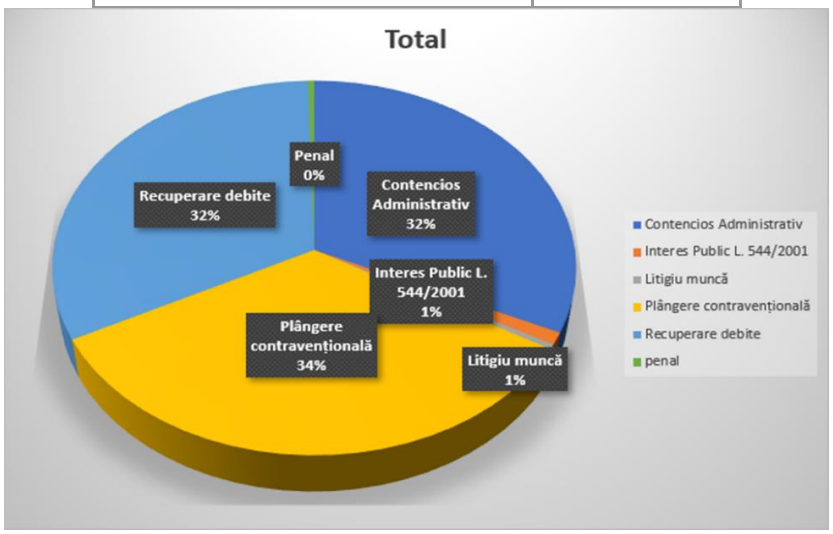
At the same time, taking into account the changes made to the primary legislation in the district heating supply sector, ANRE has started an extensive process of elaboration/adaptation of the secondary legislative framework in this field, as an example, *ANRE Order no. 11/2021 for the approval of the Methodology for monitoring the public service of thermal power supply in centralized system and of the heating and/or urban cooling systems* and *ANRE Order no. 146/2021 for the approval of the instructions on the principles, content and elaboration of local strategies for the population's thermal power supply service*.

In particular, considering the prerogatives of approval of regulations in the electricity, thermal energy and natural gas sector, in 2021 there were 54 meetings of the Regulatory Committee, and a number of 142 orders and 3 decisions of the ANRE President were issued and published in the Official Journal of Romania, according to Annex 1.

The status of court cases handled by the Administrative Service during 2021 reads as follows:

- regarding the division of cases per types of disputes:

Administrative litigation	156
Public interest, as per Law 544/2001	5
Labour dispute	2
Contravention complaint	165
Debt recovery	157
Criminal aspects	2
Total	**487**



Administrative litigation, Public interest as per Law 554/2001, Labour dispute, Contravention complaint, Debt recovery, Criminal aspects

- as regards the status of disputes, these are:

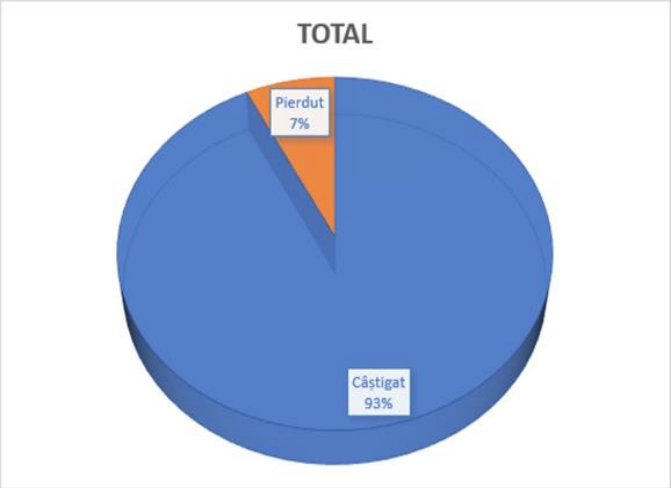
Won	368
Unsolved	81
Lost	29

Suspended	9
Total	487

- status of won versus lost disputes:

Earned	368
Lost	29
Grand total	397

TOTAL – Lost, Won



Management of human resources

Throughout 2021, 37 tenders were organized, in order to ensure specialized personnel that can meet the specific objectives set at the level of the relevant departments, following which 21 hires were conducted.

Also, seven tenders through which seven employees of ANRE were promoted to management positions were organized.

At the same time, by means of exam sessions, three employees were promoted to higher execution positions, as a result of fulfilling the job requirements, proven in the carried out work.

In view of the SARS COV 2 coronavirus pandemic, in 2021, the number of training courses was reduced, as such, only 11 employees participated, physically or online, in training programs on the following topics: "Legislative news on the drawing up of income and expenditure budgets", "Power system basics for non-engineers", "Integrated use of PLEXOS software", "Practical guide for setting electricity tariffs", "Flexibility in the power grids", "Setting the weighted average cost of capital".

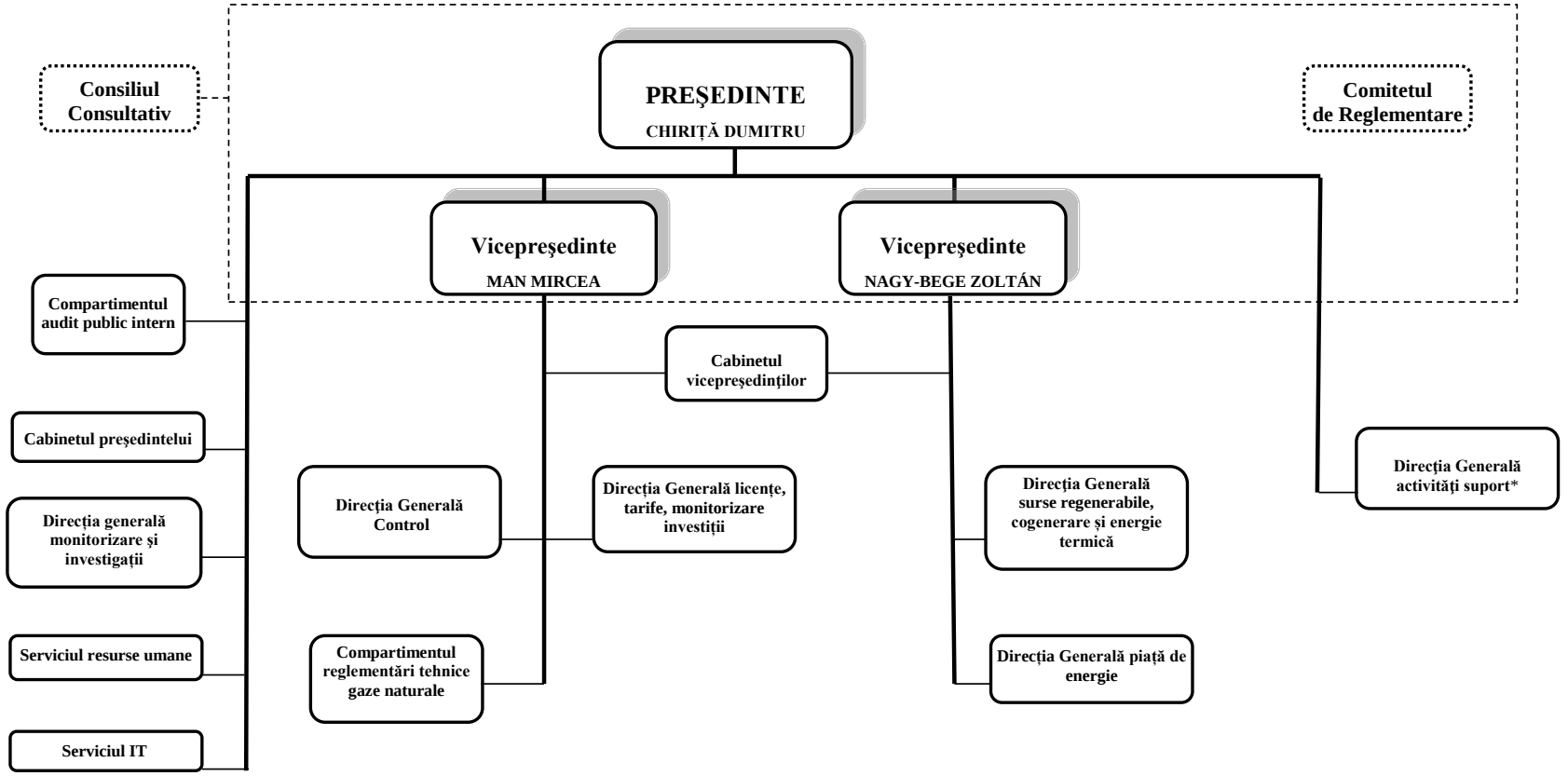
We also mention that 327 participations were registered in the online courses organized within the project "Implementation at ANRE level of an Integrated Software System (SSI)", more precisely the modules "Document management and electronic archive" and "Internal portal and share point".

The process of assessing the professional performance of ANRE employees highlighted that all employees have obtained the "VERY GOOD" rating, thus ensuring the objectives of the professional performance assessment pursued in the performance of the assessment process, according to the provisions contained in PO 02-13 on the assessment of the individual professional performance of employees, at the same time, the training and professional development needs of the employees were identified, and were subsequently included in the Annual training plan for 2022, according to PO 03-13 on the continuous professional training of ANRE employees.

ORGANIZATIONAL STRUCTURE

Annex to Order no. 28/2021 **of the National Energy Regulatory Authority**

Number of positions approved: 350 (excluding members of the Regulatory Committee)



Advisory Board, President, Regulatory Board, Vice-president, Internal Public Audit Department, President Cabinet, Vice-president Cabinet, General Monitoring and Investigations Division, Human Resources Service, IT Service, General Control Division, General Licenses, Tariffs, Investment Monitoring Division, Natural Gas Technical Regulations Department, General Division - Renewable Sources, Cogeneration and Thermal Energy, General Division Energy Market, General Support Activities' Division

* Ensures the relationship with the Regulatory Committee and the Advisory Board

International cooperation

Throughout 2021, ANRE continued to maintain and develop optimal bilateral relations and proper communication with the European Union institutions and national entities coordinating the transposition and implementation of the *acquis communautaire*. The purpose of these activities was to participate in the European decision-making process, to strengthen democratic accountability and to implement the energy union strategy that would guarantee, from the regulator's point of view, affordable, secure, competitive and sustainable energy. At the same time, another goal relates to the appropriate representation of the institution within national structures and working groups/workshops organized at European level, in the field of energy, in order to achieve the regulatory framework necessary for an optimal energy transition, with the involvement of all economic and social sectors, in order to achieve climate neutrality by 2050. In order to achieve these objectives, the staff of the International Relations Service consulted and cooperated closely with the line departments, in order to reach agreement on an effective response by the institution or to draw up position papers on proposals at Community level to facilitate joint and consistent decisions, at national, regional or European level.

The emergence of successive waves of the COVID-19 pandemic and the adoption of appropriate measures at national and international level have had a major impact on international relations activities (meetings with physical participation), as the COVID-19 pandemic required a comprehensive and coordinated approach, both at EU Member State level, as well as at the level of international organizations. In the context of the COVID-19 pandemic, ANRE promptly responded to the requests of ACER, CEER, the European Commission and other European institutions and/or organizations. More specifically, according to the strategic priorities of ANRE, maximum attention was paid to the participation in virtual meetings organized by these institutions, in a teleconferencing or videoconference system, with a view to ensure solid cooperation on energy security, energy and climate change, decarbonisation, compliance with Community legislation, network codes, interconnection and liberalization of energy markets, convergence and price transparency, capacity and adequacy mechanisms at regional and European level.

In the context of the expression of requests by the European and International Energy Community, extensive bilateral and multilateral discussions have been initiated and conducted, in particular with neighbouring countries, which aimed both at analysing and solving common issues and at undertaking technical assistance programs in the field of energy regulation.

ANRE has ensured the maintenance and development of permanent links with national regulators in the field, in order to support bilateral, regional and/or multilateral cooperation, the exchange of information and good practices in the field of regulation of electricity and natural gas markets, to harmonize national legislation in line with the development of the *acquis communautaire* and to reconfigure energy markets in line with the legislative provisions contained in the European Commission legislative package “Clean Energy for all Europeans”.

In the context of international cooperation, ANRE continued to exercise its mandate as a full Member of the Council of European Energy Regulators - CEER and the European Union Agency for the Cooperation of Energy Regulators - ACER, participating, by means of its representatives, in the general meetings of CEER, at the working groups set up within CEER and ACER, at the meetings of the Board of Regulators (BoR) of ACER, at the drafting of the documents proposed in the subsequent work plan of CEER and ACER for the year 2020 and/or the following period. During the reference period, ANRE ran for participation in ACER’s Board of Directors and had a representative in ACER’s Board of Appeal – an entity with a role in solving disputes at European level. Also, ANRE participated in the videoconference events organized for the Expert groups for Cleaner electricity systems, renewable energies and natural gas of the

Economic Commission for Europe - the Committee for Sustainable Energy, having its own contributions to the presented documents and reports.

According to the legislative provisions in force, ANRE has developed and transmitted national reports on the development of the national electricity and natural gas market and the liberalization of the sector, in accordance with the requirements of the European legislation, the provisions of the national legislation and the recommendations of CEER / ACER, contributing to ACER's monitoring report on the development of energy markets, by providing data and developing the complaint handling chapter of the volume dedicated to consumers. At the same time, ANRE has contributed according to the requirements contained in the legislative package of the European Commission "Clean Energy for all Europeans" to the updating and drafting of ACER and CEER documents (methodologies, decisions, reports, opinions, recommendations), providing information on national regulatory developments.

With a view to the development by CEER of the comparative analysis of the efficiency of transmission system operators for electricity and gas (TCB21) and of the CEER decision adopted at the level of the Board of Regulators, ANRE considered it beneficial to include Romania in the reference area for the European Union for natural gas and electricity.

ANRE continued, in 2021, directly or by means of the Romanian Embassy in Baku, the development of institutional cooperation relations with the Azerbaijan Energy Regulatory Agency – AERA, offering numerous concrete answers on the Regulation, the development and functioning of the Romanian energy market and proposals to solve the issues in relation to which it was asked for help.

Based on the Collaboration protocol and the Cooperation and assistance program previously signed, in order to strengthen the dialog and the efficient development of the exchange of experience, cooperation with ANRE Moldova continued, but due to the limitations imposed by the sanitary restrictions, it was restricted to solely virtual contacts.

According to the Collaboration protocol previously concluded with the Bulgarian Regulatory Authority – EWRC, discussions were held on technical aspects regarding the regulations in the electricity and natural gas sector concerning the mandatory application of European regulations in the field, on the experience and good practices in the current regulatory activity.

Also, including in what concerns projects of common interest, discussions were initiated with regulators from Germany, Poland, Czech Republic, Austria, Slovakia and Hungary.

Whenever the occasion arose, ANRE's opinions, regulatory activity and concerns were presented externally on the occasion of virtual participation in international meetings, seminars and conferences on topics of professional interest.

Transparency of the decision-making process and consumer information

Increasing communication capacity in order to strengthen the institution's position as a source of credible, secure and transparent information on the rights of energy consumers laid down in European, national and issued regulations was also the main objective of communication throughout 2021, and timely information to the public and dialog partners regarding consumer protection achievements and actions taken to empower economic operators in the energy sector represented an essential component of this activity.

Thus, the information activity in the reference year focused mainly on providing the requested information, in writing, electronically, via telephone and in hardcopy form.

In applying the legal provisions regarding access to information of public interest, ANRE responded to **2866** requests for information. Of these, 424 represented requests addressed by legal entities, Romanian and foreign, and **2442** represented requests addressed by private individuals, Romanian and foreign. Of the total requests for information submitted, **2559** were transmitted electronically and **3** on paper, and **304** represented information verbally requested by natural persons / legal entities, Romanian and foreign.

Although most of the requests for information referred to aspects specific to the field of consultancy, ANRE responded **within the legal minimum term of 10 days to 99%** of the requests for information received in 2021.

Another efficient manner of disseminating information, achieved by implementing the provisions on decision-making transparency relates to the institution's website, which has been constantly updated with data and information on both the regulations issued, as well as regarding the draft regulations – **123** in number – which were subject to the public consultation processes launched by ANRE in 2021.

In order to increase the information and awareness of the rights of final customers of electricity and natural gas in relation to the economic operators participating in the market and to ensure an adequate communication framework, ANRE continued and improved the information activity through the call-centre service *(021-9782 - telephone line dedicated to informing energy consumers)*, extending the range of information provided in the light of legislative changes that took place throughout the year.

Given the liberalization of the electricity market starting with January 1st, 2021, ANRE has come to the aid of household customers in the energy market by setting up a "call-centre" dedicated to the process of changing the electricity and natural gas supplier *(tel: 0374 554 265 - telephone with normal charge in the Orange network, which can be called from all networks)*, where, in the first months of the year, experts from ANRE provided advice to all consumers who were experiencing difficulties in the process of concluding a new contract in the competitive market, this service being subsequently outsourced.

In the context of the liberalization of the natural gas market, as of July 1st, 2020, and of the electricity market, as of January 1st, 2021, and with a view to providing household customers with information on the options they have when switching from the regulated market to the competitive market, the National Energy Regulatory Authority (ANRE) submitted in 2021 to the National Audio-visual Council (CNA) a request regarding the approval of the free-of-charge broadcasting, by audio-visual means, of a message of public interest on the liberalization of energy markets. This request was made in the context in which ANRE's intention was to facilitate access to information related to the liberalization of markets to as many final customers as possible. The message of public interest on the liberalization of energy markets formulated by ANRE was approved by the CNA at the end of February 2021, as such, its broadcasting on TV stations was possible.

Starting with December 1st, 2021, ANRE continued the non-commercial campaign at the national radio and television stations, by broadcasting an audio-video informative spot on the topic of self-metering, with the recommendation of CNA.

Also, another important channel of communication with the public was the mobile application that allows access to the comparison tool for standard offers for electricity and natural gas supply and information in the field of energy. The mobile app is available to any user who has access to the Google Play and Apple Store, and has been managed successfully, including in terms of compliance with the legal provisions regarding decision transparency.

The notification of the public opinion was also conducted via the media, through press releases and briefings transmitted to daily newspapers, television and radio stations (**74** in total),

interviews and answers to questions directly addressed by journalists. As a result of the media communication, in the written press, on-line, TV and radio, in 2021 there were **2332** articles and notifications, in which there was mention of actions, achievements, events, objectives and perspective plans of ANRE, the main topics addressed referring to: the obligations arising from the primary and European legislation included in the regulatory program, such as*: liberalization of the domestic gas and electricity markets for household customers; prices for the supply of natural gas to household customers, as well as electricity; how to change suppliers; the functionality of the web application for comparison of the standard offers for the supply of natural gas/electricity; the stage of liberalization of the gas and electricity markets and the state of signing of contracts under competitive conditions; the obligation to offer natural gas on the centralized markets; the obligation of last resort suppliers to inform household customers about the supply of electricity; the last resort supply of natural gas; the new rules on the connection of household, non-household customers, prosumers to public interest electricity networks, to the natural gas distribution system; implementation of the project "Development of the institutional capacity of the National Energy Regulatory Authority to simplify the process of switching the electricity and natural gas supplier" financed by the Operational Program - Administrative Capacity (POCA); amendment of the rules for trading electricity produced in renewable power plants belonging to prosumers; fulfilment by ANRE of the data security requirements as per the provisions of REMIT; results of the investigations carried out by ANRE on the wholesale electricity and natural gas markets; results of the verifications carried out by ANRE in what concerns the suppliers of electricity and natural gas.* All the information, communications, materials developed and published on the official website of the Authority, www.anre.ro, were taken over in the local and central press at a rate of 100%.

ANRE resorted to the levers made available by the law and disseminated practical information for the final customers regarding the effects of the liberalization of the electricity market, the selection of an optimal supply offer, solutions regarding the signing of new contracts, etc. at the same time, according to the regulatory prerogatives stipulated by the law, ANRE has established, by means of the secondary legislation applicable in the field, concrete obligations of informing the operators and of reporting to ANRE the methods and extent of their fulfilment.

Considering the public's great interest in finding out as many details as possible about the liberalization of the electricity market, as well as the need to disseminate the necessary information to household consumers from authorized sources, ANRE, throughout 2021, disseminated via official accounts on social media channels such as Facebook, LinkedIn and YouTube, information materials, details and press releases related to the subject of market liberalization, as well as other results of the regulatory work carried out within the Authority.

Red tape reduction, computerization

Throughout 2021, the digital transformation process was continued with the aim of streamlining internal processes, resulting in better services for citizens and the regulated market.

The main projects, in the area of ANRE digitalization, from 2021, were as follows:

- Completion of the implementation of the contract for "Implementation of an integrated software system at ANRE level", by means of which the following benefits were obtained:
  - Digitalization of the process of calculating contributions,
  - All business flows related to the petitions have been digitalized. Concretely, the departments for managing and solving petitions are the first completely paperless departments in ANRE,
  - Optimization of financial processes in a new module,
  - Optimization of the data processing processes (started with the threshold area),
  - Digitalization and operationalization of all business processes in the area of licenses / authorizations / certificates shall follow,
  - Automatic archiving of all documents,

  - Continuation of the operation of the modules in 2022.
- Update and development of several important applications:
  - Standard supply offers comparison tools for electricity and natural gas,
  - Internal portal area,
  - Adapting current applications to legislative changes.
- Signing the contract for the development of the "Online platform for the switching of electricity and natural gas suppliers (POSF)" from the project financed from European funds, "Development of the institutional capacity of the National Energy Regulatory Authority to simplify the process of switching the electricity and natural gas supplier" (SMIS 129990);
- Flexible working relationships, by implementing a secure system to facilitate remote work (VPN, collaborative work portal).

Audit

The internal public audit activity within ANRE is organized at department level and aims to improve risk management, control and governance processes, by providing reasonable advice and assurances that they are carried out economically, effectively and efficiently and allow the achievement of the proposed objectives, as well as formulating proposals for solutions and recommendations to improve the work of the authority, the regulatory framework and the internal control system.

In 2021, at ANRE level, 6 internal public audit missions were carried out, of which:
- 3 planned missions that concentrated on monitoring and analysis of investments in the energy sector; granting, modification, suspension or withdrawal of licenses / authorizations / certificates in the energy sector; Corruption Prevention System - 2021 and an ad hoc mission that focused on the annual inventory of ANRE patrimony;
- 2 formalized counselling/consultancy missions, one planned for the implementation of the project Integrated Software System at ANRE level and one ad hoc for the assessment of the process of collecting/gathering data and information, processing, analysis and reporting at DMREMIT level for the purpose of monitoring the electricity and natural gas market.

In 2021, 9 internal quality management system audits were carried out. During the audit, no applicable legal, procedural and regulatory requirements were identified as not being taken into account in the planning of the processes and no non-conformities that could affect the processes and influence the products provided by ANRE through the audited structures were identified.

Recommendations have been made to improve the QMS, in particular to ensure the continuous professional training of employees on QMS, by participating in training courses/internal, physical or online trainings, depending on the development of the COVID-19 pandemic.

The audit concluded that all the objectives set out in the audit plans and in accordance with the internal audit program of the QMS were achieved and the requirements of SR EN ISO 9001:2015 subject to the audit activity were met at the level of the audited departments, which demonstrates that the QMS is maintained and operates effectively.