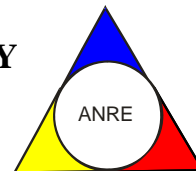




ROMANIAN ENERGY REGULATORY AUTHORITY



NATIONAL REPORT 2011

September 2012

CONTENTS

| | | |
|----------|---|-----------|
| 1 | Foreword | 3 |
| 2 | Major achievements in the reporting period | 5 |
| 3 | Electricity market | 25 |
| | 3.1 Network regulation | 25 |
| | 3.1.1. Unbundling | 25 |
| | 3.1.2. Technical functioning | 27 |
| | 3.1.3. Network tariffs for connection and access | 32 |
| | 3.1.4. Cross-border issues..... | 38 |
| | 3.1.5. Compliance, dispute settlement..... | 44 |
| | 3.2. Promoting competition | 46 |
| | 3.2.1. Wholesale electricity market | 46 |
| | 3.2.2. Electricity retail market | 62 |
| | 3.2.3. Recommendations on supply prices | 67 |
| | 3.2.4. Carry out investigations and imposing measures to promote effective competition | 67 |
| | 3.3. Consumer protection | 67 |
| | 3.4. Security of supply | 70 |
| 4 | Natural gas market | 75 |
| | 4.1 Network regulation | 75 |
| | 4.1.1. Unbundling | 76 |
| | 4.1.2. Technical functioning | 80 |
| | 4.1.3. Network tariffs for connection and access | 81 |
| | 4.1.4. Cross-border issues..... | 86 |
| | 4.1.5. Compliance, dispute settlement..... | 87 |
| | 4.2. Promoting competition | 88 |
| | 4.2.1. Natural gas wholesale market..... | 88 |
| | 4.2.2. Natural gas retail market | 91 |
| | 4.2.3. Recommendations on supply prices | 94 |
| | 4.2.4. Carry out investigations and imposing measures to promote effective competition | 94 |
| | 4.3. Consumer protection | 94 |
| | 4.4. Security of supply | 96 |

1 Foreword

This document represents the national report issued by the Romanian Energy Regulatory Authority – ANRE for ACER – the Agency for the Cooperation of Energy Regulators and the European Commission in order to comply with the reporting obligations pursuant to art. 37 (1) point e) of Directive 2009/72/EC and to art. 41(1) point e) of Directive 2009/73/EC. The report contains information on the development of the electricity and natural gas markets for the period January 1, 2011 – December 31, 2011.

The transposition into national legislation of the provisions of the Third Energy Package was completed in June 2012 when the Romanian Parliament passed the Electricity and Natural Gas Law No. 123/2012 together with the Law for the organisation and functioning of ANRE and sent them to the Romanian Presidency for enactment. The first Law was enacted and published in the Official Journal of Romania no. 485/16.07.2012, while the second one was sent back to the Parliament for reconsideration at the beginning of July. Although the second law contains provisions regarding ANRE organisation, functioning and powers, much of the provisions already exist in the national legislation. The new aspects refer to the status of ANRE in the sense that the newly introduced provisions ensure a clear independent and autonomous status of regulatory authority in line with the provisions of the European Directives. The Law gives ANRE the power to decide independently on the measures to ensure effective competition necessary for the proper functioning of the electricity and natural gas markets and to take effective, proportionate and dissuasive steps against economic operators who fail to comply with the legal obligations incumbent on them.

To create a modern energy sector in compliance with EU principles regarding liberalisation of electricity and natural gas markets with a view to meeting customers demand, in 2011 the regulatory activity focussed mainly on: promoting electricity from renewable energy sources, promoting electricity produced in new cogeneration capacities, implementing intra-day market mechanisms and improving the existing capacity allocation mechanisms, assessing the impact of phasing out regulated prices in electricity and natural gas. Numerous public consultations were held on the transposition of the 3rd Energy Package provisions into national law. In the spirit of development and proper functioning of the internal market, ANRE has maintained collaborative relationships with both national and international entities and bodies.

The establishment of the Agency for the Cooperation of Energy Regulators - ACER in March 2011 with the role to assisting regulators in exercising the regulatory tasks at community level and to coordinate their actions where necessary gave a new impetus to the consolidation of the European internal market through the Agency's regional and community initiatives.

To continue the harmonization and implementation of the secondary legislation with a view to developing the internal energy market, ANRE will carry on implementing the best practices in the field and adjust them to the national particularities within a mandatory consultative procedure to ensure the transparency of the decision-making process.

NICULAE HAVRILEȚ

PRESIDENT

Abbreviations

AAC – Already Allocated Capacity

ATC – Available Transmission Capacity

BM - Balancing Market

BRM - Romanian Commodities Exchange

BRP – Balance Responsible Party

CMBC – Centralized Market of Bilateral Contracts

CMBC-CT –Centralised Market of Bilateral Contracts with Continuous Trading

DAM - Day Ahead Market

DO – Distribution Operator

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

ENTSO-G - European Network of Transmission System Operators for Natural Gas

HHI – Herfindahl-Hirschman Index

NPS –National Power System

NTC – Net Transfer Capacity

NTS - Romanian Natural Gas Transmission System

OEL – Overhead Electricity Line

REM – Retail Electricity Market

TRM – Safety Margin of the International Interconnection

TSO – Transmission System Operator

2 Major achievements in the reporting period

2.1. Legal framework

In 2011, the transposition of Directives 72/2009/EC and 73/2009/EC was not finalized, yet was the precursory year for the preparation of necessary draft laws. During 2011 there were several discussions with EC representatives upon transposition options and particularly on roadmaps for phasing out the regulated tariffs in the electricity and gas sector.

The main modifications of the current legislation for the transposition of the 3rd package are, as follows:

I Choosing the model „ independent system operator” (ISO)

Directive 72/2009/EC provides unbundling rules for the transmission system operator regarding the ownership regime which corresponds to the following 3 models:

1. Ownership unbundling
2. Independent system operator
3. Independent transmission operator

Having regard to the fact that both electricity and natural gas transmission systems are public property, the **Independent system operator model** was chosen for both sectors. This model allows the certification of the transmission system operator in compliance with European provisions, and at the same time, maintaining the existing ownership and providing also an effective unbundling of electricity and natural gas transmission from generation and supply.

The proposals for amendments of the current legislation establish independence requirements for both TSO and owner of the system. The Line Ministry proposes the legal person performing the TSO function, and the final certification decision belongs to ANRE, upon approval of the European Commission.

For the complete transposition of TSO independence provisions two distinct public bodies (i.e. ministries) are necessary, exerting distinct control on the TSO, on the one hand, and on generators and suppliers, on the other.

II. Phasing out regulated tariffs for final customers

The proposals for amending the current legislation are the following:

- gradually phasing out regulated tariffs for electricity non household customers by December 31st 2013, respectively December 31st 2017 for household customers, by establishing a phasing out calendar and, at the same time, by providing support measures for customers,
- gradually phasing out regulated tariffs for natural gas non household customers by December 31st 2014, respectively December 31st 2018 for household customers, by establishing a phasing out calendar and, at the same time, by providing support measures for customers,

In order to ensure an efficient competition ANRE has to permanently monitor the effects of the regulated market functioning upon the competitive electricity and natural gas market and implement the necessary measures to avoid distortions.

III. Independence of the regulator

ANRE will be an independent and autonomous institution:

1. ANRE will be organized as an autonomous administrative authority with legal personality and own patrimony, and will submit annual reports regarding fulfillment of its mandatory attributes and competencies to the Parliament, Government and the President of Romania, the Agency for Cooperation of Energy Regulators - ACER and the European Commission.
2. Financing current and capital expenditures will be made entirely of ANRE own revenues.
3. ANRE will be managed by a president and two vice-presidents and for the approval of the regulations will be constituted a regulatory committee composed of president, vice-presidents and 4 regulators, appointed by the Romanian Parliament, the mandate may be renewed once.

Thus, ANRE will have the power to decide independently the measures for effective competition, necessary for the operation of the electricity and gas markets, and enforce appropriate sanctions for the sector undertakings which do not observe their legal requirements.

IV. Customer protection

Customers must have access to clear information concerning their rights. The supplier ought to make available for its household customers contact/information points, in compliance with ANRE regulations, in order to inform them of their rights, legal provisions into force and ways of settling disputes and complaints.

Efficient disputes/legal proceedings settlement accessible to all consumers is a guarantee of an enhanced protection of the latter.

A proposal was made to set up a Commission for disputes settlement, as an independent body, extrajudicial, organized within ANRE, that settles all disputes, not only pre-contractual ones, between electricity market participants.

For the same purpose final customers have the right to consult a mediator, in compliance with Law no. 192/2006 provisions, concerning mediation and mediators, subsequently modified and amended.

A Government Decision shall be adopted to establish vulnerable customers categories, as well as the facilities they can benefit from.

The regulator can enforce to the operators high level universal service standards-for electricity-thus contributing to customer protection.

The distribution operators and local administrations are obliged to achieve the electrification of localities extend the electricity distribution networks, at the same time, refurbish them by introducing smart grids that facilitate the integration of renewable units into SEN, and also provide decentralized electricity generation and energy efficiency.

On the other hand, having regard to consumer protection purposes, electricity security of supply, environmental protection and equivalent competition levels in all EU member states, complying with the requirements of public service represents an essential element. It is important when implementing at national level public service requirements to take into consideration national circumstances and observance of European legislation.

Also, in order to provide a real protection to vulnerable customers against abusive practices of the operators, intensified penalties and contraventions are stipulated.

V. Security of electricity and natural gas supply represents a major objective for the development of the European society aiming at implementing a sustainable policy regarding climate change and also to enhance competition on the internal market. To this regard the legislative draft is in compliance with the provisions of Regulation EC No. 714/2009, respectively Regulation EC No. 715/2009 concerning access to the cross border interconnection capacities, including their allocation principle and congestion management in order to ensure energy supply from all sources at best competitive prices for both customers and industrial consumers from the European Union.

ANRE's security of supply monitoring activity concerns the compliance with the network development plans of the transmission system operator, the accomplishment of investments in new generation capacities, and also the observance of management an interconnection capacity allocation rules by market participants, monitoring that is achieved in cooperation with neighbouring states regulators and ACER.

Most of the provisions of Directives 72/2009/EC and 73/2009/EC were transposed into the national legislation, as in June 2012 the Law electricity and natural gas no. 123/2012 was passed.

We should mention that the provisions of articles 35, 36 and 37 of Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, published in the Official Journal, L 211 on 14/08/2009 and the provisions of articles 39, 40 and 41 of Directive 2009/72/EC the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, published in the Official Journal L 211, on 14/08/2009, are not transposed by Law 123/2012. These article correspond to the Law concerning the organization and functioning of ANRE, law transmitted to the Parliament for reexamination by the President of Romania.

1.2. Electricity market

Unbundling of activities

Given the fact that the electricity transmission system in Romania is public property, the chosen unbundling model was **independent system operator**. This model allows the certification of the transmission system operator in compliance with European provisions, and at the same time maintaining the existing ownership and providing also an effective unbundling of transmission activities from generation and supply.

To this regard, the new Electricity and Gas Law- 123/2012- approved on June 2012, establishes independence requirements for both TSO and owner of the system. The Line Ministry proposes the legal person performing the TSO function, and the final certification decision belongs to ANRE, upon approval of the European Commission.

For the complete transposition of TSO independence provisions two distinct public bodies (i.e. ministries) are necessary, exerting distinct control on the TSO, on the one hand, and on generators and suppliers, on the other.

Wholesale electricity market

The current structure of the electricity generation sector reflects the successive reorganizations put in place during 2000 – 2004, which resulted in a reduced concentration on the wholesale market. In 2011 the investments in new **renewable electricity generation capacities** continued particularly wind power plants. At the end of 2011 the maximum generation capacity from renewable sources (other than hydro) was 1031 MW and included wind power plants (1006 MW, double by comparison with 2010 and 50% higher than the forecasted one), Biomass (24 MW) and photovoltaic (0.869MW).

In 2011, the electricity production at SEN level, for all sources of energy amounted to **56968 GWh**, and the electricity injected into the network by dispatchable units amounted to **55642 GWh**.

From the point of view of primary sources for electricity production the year 2011 was characterized by prevailing classical resources over 50% solid, liquid and gas fuel. In order to cover the energy consumption also contributed the nuclear sources 18% and renewable ones hydro 28%, wind 2%, biomass 1%, from the total energy delivered into the network by the producers with dispatchable and non dispatchable units.

Year 2011 was characterized by a major drought, starting from the first months of the year. Romania has experienced a severe hydrological deficit affecting rivers and the Danube with serious consequences in reducing water supplies in major reservoirs (the smallest reserves in the last five years during May-June and November-December) and hence the production of electricity from hydropower. Hydropower has enabled the force majeure clause in commercial contracts to sell electricity in progress, so that they can reduce energy supplies in proportion to reduced production caused by severe drought. Its total energy production in 2011 (produced in Iron Gate I and II, hydro facilities on stream flow, storage hydroelectric power plants and in their small hydropower) decreased by 25% compared to the corresponding of 2010.

The **wholesale electricity market** includes all the transactions conducted between participants, except the ones for selling electricity to final consumers.

Table 2.1 shows the dynamics of electricity volumes traded in 2011 on the main components of the wholesale market compared with 2010.

Table 2.1

| Wholesale market components | Trade volumes in 2011 - GWh - | Evolution compared with 2010 - % - |
|--|----------------------------------|---|
| Negotiated bilateral contracts market | 59147 | ▲ 17.8 |
| Export | 2942 | ▼ 23.7 |
| Regulated bilateral contracts market | 28021 | ▼ 3.2 |
| Centralised bilateral contracts markets (CMBC+CMBC-CT) | 5031 | ▲ 14.7 |
| Day-ahead market (DAM) | 8870 | ▲ 2.0 |
| Intra-day market (PI) | 4.5 | N/A |
| Balancing market (BM) | 4837 | ▲ 63.1 |

As in previous years, in 2011 the whole prevailing wholesale market was **trading on negotiated bilateral contracts** (concluded through direct negotiations or brokerage platform) and **regulated** (with quantities and prices approved by regulators), whose volume represented on the whole about 162% of the country's domestic consumption, up from 2010.

Due to the competitiveness and transparency of the centralised markets, the increase of the trading volumes on DAM (albeit a minority), on centralised bilateral contracts markets (which recorded a significant increase) and volumes traded (albeit insignificant) on the emerging intra-day market are considered positive developments in these segments of the wholesale market.

The interest for transactions conducted in a transparent manner is demonstrated by a 20% increase compared to 2010 of the number of participants enrolled in the DAM. With a total volume of 8870 GWh, **transactions on DAM**, in 2011, have represented about 16.5% of domestic consumption (calculated as the difference between energy delivered in network and the balance between exports and imports).

A total of 48 of the 93 participants registered on **PCCB** (trading through auction on centralised bilateral contracts market) have expressed interest in using the products offered by this market. The amount traded in 2011 for delivery in 2011 and 2012 amounted to 5.6 TWh, of which deliveries for 2012 amounted to 4.5 TWh. Transactions with short and medium term delivery (by way of trading with continuous negotiation - PCCB-NC) have intensified with a total annual volume of 0.456 TWh.

Since July 25, 2011 short-term product portfolio has been improved by the appearance of the intra-day market (PI). Introduction of the new trading mechanism allows market participants to balance their portfolio closer to delivery. This will help reduce imbalances, even if intra-day market is realized in a simplified version, consisting of a single session immediately after closing the session of DAM

Regulated component of the wholesale market has ensured in 2011 the supply of electricity at regulated tariffs for households and non-households who have not used the right to choose their electricity supplier and to cover losses in transmission and distribution networks (including mutual aid contracts at regulated prices between producers).

A total of **1 TWh** of electricity has been imported and **2.9 TWh** has been exported (the values are based on the data reported by the market participants); the physical flows were **2.9 TWh** on import and **4.8 TWh** on export.

The balancing market is a necessary component of the wholesale electricity market for ensuring the real time balance between offer and demand on commercial basis.

In late 2011, on the balancing market were active 19 producers with a total of 137 dispatchable units and 126 balancing responsible parties.

The total volume traded on the balancing market in 2011 increased by 63.1% from the year 2010 and monthly values were consistently below those traded on DAM.

Market of ancillary services, a market with two components: one regulated and another one competitive operates for securing the secondary, slow and fast tertiary reserves. Since the ancillary services market is constantly highly concentrated (hydro producer is able to achieve most of them at high quality), the most of reserves are usually secured through regulated contracts concluded between qualified producers for this service and CN Transelectrica SA (transmission system operator), the rest is provided through auctions organised by the TSO. While demand for secondary reserve was covered 100% by regulated contracts in 2011, to cover a large extent of the tertiary reserves, in addition to regulated contracts with quantities

approved by ANRE Decisions, auctions were held. The quantities obtained through auctions represent 15% of the total of tertiary reserves (fast and slow).

The regulated tariffs for ancillary services acquisition for 2011 remained at the level of 2009, being unique for all qualified ancillary services providers. Prices resulting from auctions for fast tertiary reserve were higher than those regulated, while for slow tertiary reserve prices were lower than the regulated ones.

The average tariff for electricity transmission service has not been modified in 2011, leaving the amount of 18.77 lei / MWh, only changed the system service charge (from April 1, 2011), from 20.75 lei / MWh at 10.21 lei / MWh, due to the emergence of the support scheme for promotion of cogeneration based on useful heat demand.

Specific tariffs for **electricity distribution service** provided by the main distribution operators remained unchanged during 2011.

ANRE continued to cooperate with regulatory authorities in neighboring countries for uniform application of the Regulations 1228/2003/CE, 1775/2005/EC and 715/2009/CE, 714/2009/CE respectively. In this context special attention was paid to cooperation with Hungary and Bulgaria in order to promote the implicit allocation of interconnection capacity and market coupling aspects. In this respect bilateral meetings have been held with both regulators.

To achieve the target proposed by the European Council in February 2011, namely achieving the internal energy market and natural gas in 2014, ANRE has been involved in completing the inter-regional plans of ACER. ANRE has proposed concrete measures regarding day-ahead market coupling, allocation of interconnection capacity and development of an intra-day market between Romania and Bulgaria.

Electricity retail market

In 2011 on the retail market were active 61 suppliers, of which 10 have generation license and 7 are the default suppliers – 3 state-owned and 4 with private majority ownership, we should mention that in September the 3 state-owned suppliers merged.

In 2011 the final electricity consumption has increased with 5% compared with the 2010 final consumption and had increased with 10% compared with the 2009 final consumption.

In December 2010 the total number of consumers supplied on the regulated market was **8,944,092** of which households –**8,381,062** and non-households -**563,030**. The total amount of electricity supplied on this market was about **20,289 GWh**, thus registering a decline of about 5% compared with 2010.

In December 2011, **12,675** eligible consumers were on the competitive market. The electricity supplied to the eligible consumers in 2011 was **25,525 GWh**, with an increase of 16% compared with 2010.

In 2011, the real market opening degree increased with 5% compared with 2010, the eligible consumption was 56% from the total final consumption.

The switching supplier rate for year 2011, presented in *table 2.2* is determined for each type of consumers in two ways: in terms of number of consumption places that have switched suppliers in 2011 and according to the energy supplied to the consumer places. It is mentioned

that the consumption of the largest industrial consumers which own and a supply license and decided to purchase power on the wholesale market, as a competitive suppliers, is not included.

Table 2.2

| No. | Consumer type | Rate of switching the supplier | |
|-----------|--|--------------------------------|----------------------|
| | | No. consumer sites | Electricity supplied |
| 1. | households + small non-households (contracted power less or equal to 100 kVA) | 0.022% | 1.792% |
| 2. | large non-households (contracted power between 100kVA and 1000 kVA) | 3.331% | 4.605% |
| 3. | very large non-households (contracted power more or equal to 1000 kVA) | 10.434% | 7.945% |
| 4. | TOTAL retail market | 0.031% | 4.502% |

Source: Data reported by suppliers, data interpretation and analysis by ANRE

Compared with last year's results, the switching rate value determined by the number of consumer places and electricity supplied have decreased, which indicates that the switching rate from one supplier to another decreased. Table 2.3 presents information on the number of suppliers with market shares higher than 5% and the concentration indicators on each type of final consumers, in 2011.

The values of the market indicators here above presented took into consideration the dominance principle. The electricity supplied used for calculating the market share of each supplier does not include the self-consumption of the largest industrial consumers which own a supply license and decided to buy the electricity from the wholesale market as a competitive suppliers.

Table 2.3

| No. | Consumer type | No. of suppliers with market shares higher than 5% | C1 | C3 | HHI |
|-----------|---|--|------------|------------|-------------|
| 1. | households + small non-households (contracted power less or equal to 100 kVA) | 5 | 37% | 85% | 2941 |
| 2. | large non-households (contracted power between 100kVA and 1000 kVA) | 6 | 29% | 68% | 1840 |
| 3. | very large non-households (contracted power more or equal to 1000 kVA) | 6 | 19% | 42% | 840 |
| 4. | TOTAL retail market | 5 | 29% | 60% | 1564 |

Source: Data reported by suppliers, data interpretation and analysis by ANRE

Values of market structure indicators calculated for 2011 shows:

- a moderate level of concentration throughout the retail electricity market and for large non-households;
- a low concentrated market for the retail segment corresponding to very large non-households;
- a high concentrated market for the retail segment corresponding to small non-households and households.

Table 2.4 presents the electricity average prices for 2005- 2011 for households and non-households supplied on the regulated market and for non-households supplied on the competitive market. The prices are expressed both in lei and Euro, the conversion being made based on the monthly average exchange rates Euro/RON published by National Bank of Romania.

Table 2.4

| Consumers | Average price | | | | | | | | | | | | | |
|-------------------------------------|---------------|------|------|------|------|------|------|----------|------|------|------|------|------|------|
| | lei/MWh | | | | | | | Euro/MWh | | | | | | |
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Consumers in the regulated market | 286 | 316 | 340 | 354 | 370 | 384 | 381 | 79 | 90 | 102 | 96 | 87 | 91 | 90 |
| Consumers in the competitive market | 144 | 168 | 188 | 224 | 242 | 244 | 256 | 40 | 48 | 56 | 61 | 57 | 58 | 60 |

The selling prices for the consumer categories listed in *table 2.5* resulted from the synthesis of data for eligible consumers and those who choose not to change supplier.

Table 2.5

| Consumer type | Euro/MWh | | | | |
|---|----------------|--------------------------|----------------------------------|-------|-------------|
| | Network tariff | Taxes on network tariffs | Price of electricity acquisition | Taxes | Total price |
| Households with an annual consumption between 1000 and 2500 kWh/year | 49.79 | 0 | 34.46 | 26.70 | 110.95 |
| Commercial consumers with an annual consumption between 2000 and 20000 MWh/year | 20.98 | 0 | 49.82 | 22.95 | 93.75 |
| Average industrial consumer with an annual consumption between 20000 and 70000 MWh/year | 17.40 | 0 | 47.10 | 21.45 | 85.95 |
| Large industrial consumer with an annual consumption between 70000 and 150000 MWh/year | 11.63 | 0 | 50.19 | 20.82 | 82.64 |

Average annual rate of euro for 2011: 4.2655 RON

Public service obligations and customer protection

For technical justification of Romanian authorities' answer to infringement process initiated by the European Commission on maintaining regulated tariffs for electricity supply to final consumers, ANRE, according with the provisions of the Government Memorandum regarding regulated electricity prices, approved on June 1, 2011, contracted consulting services to develop an impact assessment study on phasing out the regulated tariffs for electricity and for setting up a realistic timetable for their removal, together with the measures necessary to reduce or avoid any negative consequences on final consumers. The measure regarding the phasing out of electricity regulated tariffs is reflected also in the Memorandum of Understanding signed with the European Commission and in the letters of intent signed with the IMF, integral parts of the Precautionary Stand-By Arrangement for Romania.

The phasing out roadmap for electricity regulated tariffs to final consumers was approved by the Memorandum of the Government in March 2012. The phasing out process starts on September 1, 2012 for non-household customers and on July 1, 2013 for households. It ends on December 31, 2013 for non-household customers and December 31, 2017 for households.

The annual list of electricity suppliers, who have the obligation to meet **the supply of last resort service** when are activated, has been updated.

ANRE started in 2010 and continued in 2011 the approval process of **the procedures for developing and implementing specific consumer profiles**, given the regulatory provisions in force, which provide the possibility to establish the hourly consumed quantities of

electricity on the basis of consumer profiles, only in the metering points where is not compulsory to install meters with hourly recording.

Thus, in the year 2011 was approved **the procedure for developing and implementing specific consumer profiles** for the distribution operator Electrica Transilvania Nord and 3 consumer profiles for distribution operator Electrica Transilvania Sud.

The regulatory authority provides access to customer consumption data, in a harmonised national manner, based on provisions of the "Procedure for changing electricity supplier", approved by ANRE Order no. 88/2009, as supplemented and amended. The regulation stipulates that each network operator need to have and to manage a centralized database with information on consumption places connected to the electricity network in the license area. The network operator has the obligation to ensure the access of suppliers and consumers to information from database for the served or owned metering points, based on an operational procedures approved by ANRE. The minimum content of database is established by the regulator.

During 2011, distribution operators have developed operational procedures for ensuring access to the database for consumer places in their license areas. Consumer access to the database for point / points owned is unrestricted, free and guaranteed by law.

Of the **2121** complaints received during 2011, **1520** have focused on the electricity sector. All the complaints were settled within deadline and in accordance with the regulations in force and with the notification of the complainants and the bodies through which they were transmitted to ANRE, as appropriate.

The main issues raised by the complaints are presented below in *table 2.6*.

Table 2.6

| Type of complaint | No. of complaints | % |
|---|-------------------|-------|
| Billing | 345 | 22.7 |
| Power quality | 308 | 20.26 |
| Issuing technical permit for connection | 115 | 7.57 |
| Meters reading | 81 | 5.33 |
| Suspected theft of electricity | 81 | 5.33 |

In the electricity sector, according to the *Procedure for solving disputes upon the conclusion of the electricity contracts between electricity undertakings, the electricity supply contracts and the network connection contracts* (ANRE Order 38/2007) ANRE performs analyses on and settles the:

- pre-contractual disputes occurring upon the conclusion of contracts between undertakings in the electricity and cogeneration sectors,
- disputes regarding the connection of users to the public electricity networks and the issuing of the location approvals.

Of the 5 dispute resolution requests received by ANRE in 2011, 2 met the conditions for applying the procedure above, both being settled within the preliminary stage.

During 2011, ANRE has conducted 222 inspections in the electricity sector. Following the inspections, minutes of findings and sanctioning have been done, the total value of fines being 1,514,600 lei.

In 2011, was negotiated and obtained an EBRD grant for a study to assess the market costs and benefits on long term, the profitability and the implementation period most feasible for promoting **smart metering systems** to final consumers.

Infrastructure

On November 17, while preparing the **growth package for integrated European infrastructures**, adopted on October 19, 2012, the European Commission published the document “**Energy infrastructure priorities for 2020 and beyond**”, document comprising the vision of the European Union on the development of energy infrastructure for the next two decades. The document **Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network - COM(2010)677**, proposes the setting up of priority corridors for electricity, natural gas and oil transport, one of them is called „North –South interconnection initiative” . The aim is to consolidate the regional cooperation in Central and Eastern Europe in order to integrate energy networks, diversify routes and sources in order to consolidate security of supply and promote market development. The states taking part in this initiative are: Bulgaria, Poland, Romania, Slovakia and Hungary. The initiative focused on the „interconnection” in terms of energy of the Baltic Sea with the Adriatic Sea and the Black Sea.

In order to implement this initiative a high level working group was established that came up with the proposal at the end of 2011, of an action plan concerning the electricity networks interconnection development. A working group was established to discuss technical and regulatory issues. The European Commission presided over this group and the members comprised Line Ministry, TSO’s and energy regulators representatives. ANRE representatives were involved, contributing with technical and tariff methodologies information applicable at national level.

The **market of allocation of the interconnection capacities** was operated by CN Transelectrica SA (the Romanian TSO) according to mechanism for coordinated allocation by explicit auctions (based on the congestion price), implemented through the bilateral agreements concluded with the Hungarian and Bulgarian TSOs. On both borders are organised auctions for all the time periods required by the Regulation 714/2009/EC (yearly, monthly, daily and intra-daily). For the daily and intra-daily allocations the netting principle is applied. The transactions are done in Euro.

The transparency of the transactions on interconnection capacities is ensured by CN Transelectrica SA by publishing information on the internet page www.transelectrica.ro, with the following explanations:

- starting with March 2011, CN Transelectrica SA operates a new transaction platform, DAMAS, on which are found all the information regarding the organised auctions and their results;
- the results of the daily auctions on the Romanian-Hungarian border are on the MAVIR web page;
- the results of the long term auctions on the Romanian – Bulgarian border are on the ESO-EAD web page.

On the border with Serbia, the Romanian TSO is in charge for organising yearly and monthly explicit allocation auctions for 50% of total available capacity. There were started negotiations with Serbian authorities for implementing bilateral coordinated auctions on this border.

On the border with Ukraine, the Romanian TSO is in charge for organising yearly and monthly explicit allocation auctions for 100% of capacity, the capacity utilization is subject to written agreement from Ukrainian authorities.

The Romanian National Power System is not synchronous interconnected with the power system of Republic of Moldavia, so the exchange of power is done through a consumption passive island.

ANRE has analysed several times the provisions of the agreements concluded by the Romanian TSO and sent concrete requests for compliance with the legal and regulatory framework in force.

For more transparency in explicit allocation of available transfer capacity, ANRE has asked the Romanian TSO to conclude cooperation agreements with the Ukrainian and Moldavian TSOs.

Regarding the cross-border issues, the regulatory authority was involved in the national working group *Regional Market* composed of representatives of TSO, the market operator, ministry and regulator. In this context bilateral meetings were held with counterparts from Bulgaria, Hungary and Serbia for development of projects regarding coordinated allocation of interconnection capacities and market coupling.

The Romanian and Bulgarian parts have agreed the establishment of an Expert Group with representatives from the ministries, regulators, transmission system operator and market operators, as a discussion and decision forum regarding the establishment of a work plan for day-ahead market coupling.

On December 14, 2011, the Steering Committee of market coupling project in Czech Republic, Slovakia and Hungary approved the Letter of Intent sent by the transmission system operator (CN Transelectrica SA), the electricity market operator (SC OPCOM SA) and the energy regulator (ANRE) to formalise the intention to join this project, in accordance with the "Memorandum of Understanding on cooperation for the creation of a functional European internal electricity market, interconnected and integrated" signed by OTS (CEPS, SEPS, MAVIR), power exchanges (OTE OKTE, HUPX) and national regulatory authorities (ERUs, URSO, MEH) from the Czech Republic, Slovakia and Hungary.

The Romanian approach fits in the overall efforts undertaken by the European Union Member States and the Agency for the Cooperation of Energy Regulators - ACER to comply with the EU Council decision of February 2011 which establishes the year 2014 as the deadline for achieving a European electricity market fully functional.

Security of electricity supply

The responsibility of ensuring the demand-offer balance on medium and long run stays with the Ministry of Economy, Trade and Business Environment, which is the issuing body of the national energy strategy (approved through G.D. no. 1069/2007). This document provides information on the strategic investments in electricity generation, transmission and distribution and on the energy efficiency and demand-side-management actions with a view to ensuring the security of electricity supply. In the last years the Ministry released a draft update of this document, the project was in progress.

According to the Electricity Law no. 13/2007, with subsequent amendments, the TSO issues the Transmission Network Development Plan on medium and long – run (10 years). This Plan

is endorsed by the regulator and approved by the competent ministry. On short term, the TSO is responsible for operational planning and operation of transport networks following criteria and standards specified by Transport Network Technical Code, a document prepared by the TSO and approved by ANRE Order no. 20/2004 with subsequent amendments. As member of of ENTSO-E, the TSO also participates in the 10 years development plan for the European transmission network.

The Romanian Energy Regulatory Authority (ANRE) provides the necessary regulatory framework to promote investments in the electricity sector by granting licenses and authorizations, by issuing and approving the prices and tariffs methodologies, by issuing commercial and technical regulations as well as rules for network connection and access.

In 2011, the electricity production amounted to 61.9 TWh increasing with approximately 1.9% as compared to 2010. Domestic consumption amounted to 60 TWh, with 3.6% higher than in 2010.

From the point of view of primary sources for electricity production the year 2011 was characterized by prevailing classical resources over 50% solid, liquid and gas fuel. In order to cover the energy consumption also contributed the nuclear sources (18%) and renewable ones (hydro 28%, wind 2%, biomass 1%; the percentages are from the total energy delivered into the network by the producers with dispatchable and non dispatchable units).

Compared to 2010, in 2011 there were decreases in the energy delivered based on oil (47%) and hydro (approx. 19%), while the energy on nuclear fuel remained approximately constant. The resource that provided for the growth of the total energy delivered was based on solid fuel (with 20%) and gas (26%). The biggest growth was registered by the energy produced from wind power plants (approx. 3 times bigger by comparison with the previous year). In total there was a growth of 5% of the electricity injected into the network produced based on both conventional and unconventional sources, from both dispatchable and non dispatchable units.

The maximum amount of net production of individual plants, available for at least 15 hours per day was on 31.12.2011 of 17.376 GW.

Establishment of new generation capacities and the retrofiting of the existing ones are carried out based on **establishment authorizations** issued by ANRE. The granting procedure as well as the conditions of the establishment authorizations (criteria, power levels, approvals, differentiated by categories of power and by activities) are stipulated in the *Regulation for the granting of authorizations and licenses in the electricity sector*, issued by the regulator and approved by the Government (GD no. 540/2004, amended and complemented by GD no. 1823/2004 and GD no. 553/2007). Refusal to grant an authorisation, lack of response within deadline and any ruling of the regulatory authority considered illegal and prejudicial by the applicant, can be appealed in the Bucharest Court of Appeal, according to the law.

To promote energy produced from renewable energy sources such as wind, solar, geothermal, biomass, waves, hydrogen and in hydropower units with installed powers of 10 MW or below, put into operation or modernized after 2004, a **green certificates market** was introduced and became operational in November 2005.

The amendments to the support scheme brought by Law no. 220/2008, as amended and supplemented, have been notified to the European Commission in June 2011, after a pre-notification stage which lasted approx. 2 years. Commission reply was received in July 2011. It concluded that the notified scheme is consistent with the guidelines on aid for

environmental protection and is therefore compatible with the internal market in accordance with Art. 107, para. 3, c) TFEU.

Following the qualification of renewable energy producers for the green certificates support scheme, in 2011, the capacity installed in E-RES production units at the end of 2011 was **1225.6 MW** and included 821.8 MW in wind power plants, 377.7 MW in hydro power plants with an installed capacity less than 10 MW, 25.1 MW in biomass power plants, respectively 1 MW on photovoltaic power plants.

Figure 2.1 provides the installed qualified power for 2009-2011.

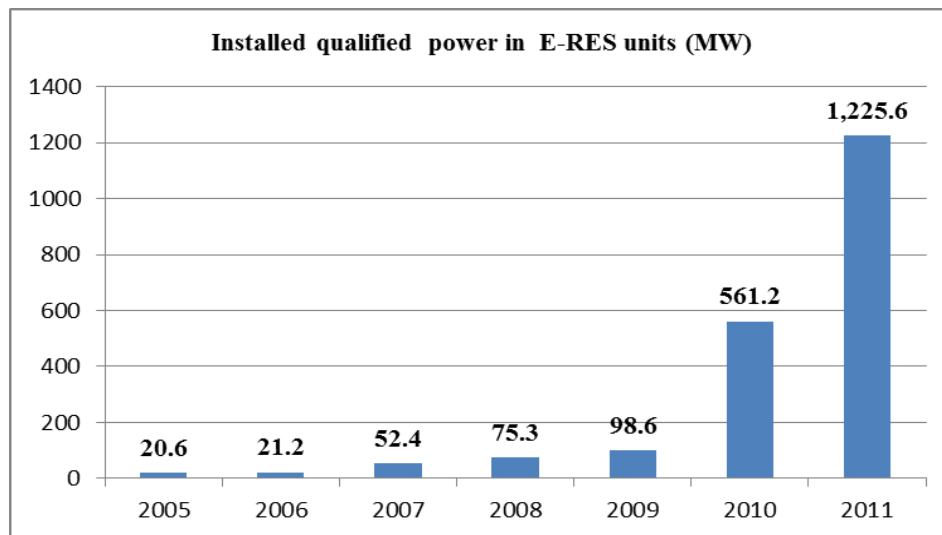


Figure 2.1

For the high efficiency cogeneration power plants, starting with April 2011, a bonus support scheme was introduced. The support scheme was notified to the European Commission according with the European regulations regarding the state aid.

Are eligible for the support scheme both **producers** of electricity and heat in cogeneration, except those that use renewable energy sources, and **consumers** who have low power and micro cogeneration plants and deliver some of the electricity produced in the electrical networks, if they use the electricity and heat produced mainly for their own consumption and have metering devices that meet the legal requirements.

The support scheme is granted only for the amount of electricity produced in high efficiency cogeneration plant that is delivered to the power grid.

For the 32 producers in question, the total quantity of electricity produced by high efficiency cogeneration that benefited from support between April-December 2011 was 3407 GWh.

Methodologies for operation monitoring were issued by ANRE for both support schemes.

1.3. Natural Gas Market

Unbundling of activities

Given the fact that the natural gas transmission system in Romania is public property, the chosen unbundling model was **independent system operator**. This model allows the certification of the transmission system operator in compliance with European provisions, and

at the same time maintaining the existing ownership and providing also an effective unbundling of transmission activities from generation and supply.

To this regard, the new Electricity and Gas Law- 123/2012- approved on June 2012, establishes independence requirements for both TSO and owner of the system. The Line Ministry proposes the legal person performing the TSO function, and the final certification decision belongs to ANRE, upon approval of the European Commission.

For the complete transposition of TSO independence provisions two distinct public bodies (i.e. ministries) are necessary, exerting distinct control on the TSO, on the one hand, and on generators and suppliers, on the other.

Wholesale gas market

Natural gas consumption has been relatively constant for the past years, around 13-14 billion cubic meters, increasing with approximately 3% in 2011 compared with 2010. The distribution of consumption between the household and non-household consumers, as well as between the subcategories of household consumers, in the last years, did not change significant.

Romanian gas market was completely liberalized from July 1st, 2007, so that all natural gas customers have now the opportunity to choose their supplier.

In 2011, the total consumption of natural gas was 150,810,050.612 MWh, from which 31,203,602.279 MWh represents household consumption (20.69%) and 106,725,863.339 MWh represents non-household consumption (70.78%) and 12,880,584.994 MWh represents own technological consumption (8.54%)

The consumption is supplied both from internal production and from import. In 2011, the internal natural gas production was 116,974,413.012 MWh, and the import amounted to 34,199,233.770 MWh.

The number of participants on the natural gas market in Romania has constantly increased while the market was liberalised, especially in the natural gas distribution and supply sector, having, at the end of 2011:

- a National Transmission System operator – SNTGN Transgaz S.A. Medias
- 7 producers: Romgaz, OMV Petrom, Amromco Ploiești, Amromco Energy New York, Aurelian Oil&Gas, Lotus Petrol and Foraj Sonde
- 3 operators for underground storage: Romgaz, Depomureș, Amgaz
- 40 companies for natural gas distribution– the biggest are Distrigaz Sud Retele and E.ON Gaz Distribuție
- 40 suppliers that act on the competitive segment of natural gas market.

The domestic gas production for 2011 that entered into consumption amounted to 74.84% from the total resources. First two producers (Romgaz and OMV Petrom) covered 97.14% out of this source.

In 2011 the import represented the difference – 25.16%. First four importers – domestic suppliers – with a import market quota of over 11% each, covered 69.44%.

The average calorific power at national level is 10.607 KWh/c.m.

The share of top 3 suppliers, calculated on the basis of the volumes traded on the wholesale market, is 82.07%

The status of the companies supplying gas to the most relevant categories of customers is presented below:

| Suppliers Customers | Number of companies with a share of above 5% | Shares of top 3 companies (%) |
|--|---|--------------------------------------|
| Gas fired electricity and/or heat power plants | 4 | 85.82 |
| Industrial customers | 3 | 89.72 |
| Commercial customers | 3 | 83.88 |
| Household customers | 2 | 92.42 |

The Romanian gas market is a national market.

In order to ensure an appropriate basis for a fair and non-discriminatory allocation of natural gas from domestic production and import, the Market Operator has been set up within the National Gas Dispatching Centre located in Bucharest as part of SNTGN Transgaz SA Mediaş.

In this respect, the current Market Operator:

- By June 31st 2011 established on a monthly basis the quota of the gas mix from domestic production and import quota for all licensed suppliers/distributors, as well as for eligible customers; and starting with July 1st 2011 in compliance with the provisions of MECMA/ANRE/ANRM Order. No. 1.284/27/160 on June 2011, establishes on a monthly basis the quota of the natural gas from domestic production/storage and import/storage quota in the gas mix, only for the non household customers except heat producers, for the gas quantity used for producing heat in cogeneration plants and in plants destined for household consumption;
- monitors on a daily basis the domestic/imported gas purchases/consumption;
- draws up on a monthly basis the report on gas purchases from domestic production and import of each Romanian gas operator and of each eligible customer, and sends them the import/total consumption quota for gas invoicing purposes.

Starting with July 1st 2011 in compliance with the provisions of MECMA/ANRE/ANRM Order. No. 1.284/27/160 on June 2011, concerning the use of natural gas quantities on the internal market and measures for enhancing the contractual discipline, the structure of natural gas mix for household customers and heat producers, only for the gas quantity used for producing heat in cogeneration plants and in plants destined for household consumption, the structure of the gas mix is established by ANRE.

The access to underground storages is regulated (ANRGN Decision 824/2004).

The structure of the regulated tariffs for gas underground storage comprises two elements:

- 1 - a fixed component for capacity booking [Lei/ MWh/full storage cycle] and
- 2 - a volume-related component for injection/withdrawal of gas [Lei/MWh].

The average underground storage tariff in 2011 was 11.17 lei/MWh.

In order to fulfill the obligations related to the safe operation of the underground gas storages, the storage operators have to establish and maintain an unitary and flexible structure for dispatching and for the process monitoring, for the communication of data and specific parameters, as well as for the prompt intervention at gas storages where needed.

With a view at guaranteeing the security of supply during the cold season, licensed suppliers have the obligation to maintain in underground storages a minimum stock of natural gas until the end of the annually injection activity.

The licensed storage operators have the obligation to guarantee the non-discriminatory access to underground storages of the gas suppliers, with priority to those with public service obligations.

The retail gas market

In 2011, the gas consumption in Romania, structured on customers' categories was:

| Customer category | Group of customers | Share in total consumption |
|----------------------|---|----------------------------|
| TOTAL, out of which: | | 100 % |
| NON-HOUSEHOLDS | Customers who did not choose to change their supplier | 16.57 % |
| | Eligible customers | 60.81 % |
| HOUSEHOLDS | Customers who did not choose to change their supplier | 22.60 % |
| | Eligible customers | 0.02 % |

The total consumption in 2011 of the main final consumers was:

| Categories of consumers | Consumption (MWh) |
|---------------------------------|------------------------|
| Household | 31,203,602.279 |
| Other non-household | 5,976,883.762 |
| Commercial | 10,755,996.738 |
| Power and/or thermal generation | 35,254,649.441 |
| Other industrial | 24,806,288.146 |
| Chemical industry | 29,932,045.252 |
| TOTAL | 137,929,465.618 |

On the **regulated market**, in 2011, the consumers on the regulated supply market segment were served by 42 suppliers, the total number of these consumers was 3,120,216 and the quantity of gas supplied to them amounted to 54,024.3 GWh.

The market shares of the three main suppliers are listed below:

| No. | Supplier | Market share (%) |
|-----|-------------------------|------------------|
| 1 | GDF SUEZ Energy Romania | 50.07 |
| 2 | E.On Energie Romania | 41.05 |
| 3 | Congaz | 1.79 |

On the **competitive market** 40 suppliers have activated. In the table below are presented the suppliers which supply gas for eligible consumers, whose market shares are more than 5%; one of them is also a gas producer (SNTGN Romgaz S.A.). The total consumption was **83,905.1 GWh**.

| Supplier | Market share (%) |
|-------------------------|------------------|
| Petrom Gas | 24.68 |
| Romgaz | 21.39 |
| Interagro | 21.25 |
| GDF SUEZ Energy Romania | 10.13 |
| EON Energie Romania | 5.28 |

At the end of 2011, **2053** eligible customers were on the natural gas free market, with a total consumption that was equal to the effective percent of market opening – **55.64%**.

Natural gas consumers are entitled to choose the type of supply contract and, according to it, the natural gas supplier for each consumption place. Natural gas consumers are not entitled to simultaneously develop a regulated supply contract and a negotiated supply contract for the same consumption place.

In 2011, 95.7% (in terms of the amount of energy consumed) of the customers connected to the national transmission system have chosen to sign a negotiated contract.

In 2011, the share of non-household customers from the final customers connected to the distribution system that chose to sign a negotiated contract amounted to around 44.56% (in terms of the amount of energy consumed) of the total non-household customers.

The final prices applied to the most relevant categories of customers are presented below:

| Customer/ Tariff | I4-1,I4-2 yearly consumption 418.6 TJ | I1 yearly consumption 418.6 GJ | D3 yearly consumption 83.7 GJ | D3, D3b (Typical household- heating, food preparation and hot water) |
|---------------------------------------|--|---|--|---|
| | Euro /GJ | Euro /GJ | Euro /GJ | Euro /GJ |
| Regulated price (VAT not included) | 6.10 | 6.57 | 6.30 | 6.28 |
| Transmission Tariff | 0.53 | 0.53 | 0.53 | 0.53 |
| Distribution Tariff | 1.37 | 1.67 | 1.68 | 1.68 |

Public service obligations and consumer protection

The European Commission continued the infringement process against Romania that has been started in summer 2009, for nonobservance of the provisions of art. 3, par.1 in conjunction with art. 3, par.2 from the Directive 2009/73/EC concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC.

According with the Memorandum of Understanding signed with the European Commission (EC) and Letters of Intent signed with the International Monetary Fund (IMF), parts of the Precautionary Stand-By Arrangement for Romania signed with IMF and EC, Romania has committed itself to phase out gradually , during 2013-2018 period, the regulated natural gas tariffs for non-households and households.

In order to comply with the requirements of the European legislation, The Romanian Government has approved in June 1, 2011 the Memorandum with the topic: *The Regulated tariffs for natural gas* which proposed, *inter alia*, that ANRE shall contract and conclude during 2011 a study for assessment the impact of phasing out the regulated tariffs and the setting up of a roadmap for gradually phasing out the regulated tariffs for natural gas final customers. The study has been finalised in december 2011.

Given the low level of household's affordability and the financial burden generated by increasing the final price to households due to the convergence of domestic natural gas prices

to import prices and phasing-out regulated prices, the Romanian authorities have proposed a scenario agreed with international financial organizations as follows:

- phasing-out the regulated prices until December, 31 2014 for non-households (except the situation where to this date there is a significant difference between the domestic natural gas price and import price that could jeopardize market stability, situation in which deadline is extended until December 31, 2015),
- phasing-out the regulated prices until December, 31 2018 for households,
- gradual increase of the trading price of the domestic natural gas production comparing with the trading price of the natural gas import on the Romanian market .

The proposed roadmap was approved by the Romanian Government under a Memorandum in June 2012.

The *vulnerable customer* is defined by new project of the Gas Law as an end user belonging to a household customer groups which on grounds of age, health or low income are at risk of social exclusion, including financial. The social protection measures and eligibility criteria are established by normative acts.

Of the **2121** complaints received by ANRE in 2011, **601** were related to natural gas sector. All the complaints were settled within deadline and in accordance with the regulations in force and with the notification of the complainants and the bodies through which they were transmitted to ANRE, as appropriate.

The main issues raised by the complaints are presented below:

| No. | Type of complaint | No. of complaints | % |
|-----|--------------------------------|-------------------|-------|
| 1 | Invoices | 105 | 17.47 |
| 2 | Acces to the network | 64 | 10.65 |
| 3 | Contracts | 59 | 9.82 |
| 4 | Equipment use | 59 | 9.82 |
| 5 | Contracts for connection works | 49 | 8.15 |

In the natural gas sector ANRE:

- settles the disputes occurring upon the refusal to grant access to the natural gas transmission/distribution systems as per the provisions in ANRGN Decision 1345/2004;
- accommodates the pre-contractual disputes in the regulated sector as per ANRGN Decision 400/2005 and in the competition segment as per ANRGN Decision 461/2006.

ANRE did not register any accommodation request in 2011.

During 2011, ANRE has conducted 384 inspections in the natural gas sector. Following the inspections, minutes of findings and sanctioning have been done, the total value of fines being 2,017,000 lei.

In 2011, was negotiated and obtained an EBRD grant for a study to asses the market costs and benefits on long term, the profitability and the implementation period most feasible for promoting **smart metering systems** to final consumers.

Infrastructure

The document **Energy infrastructure priorities for 2020 and beyond - A Blueprint for an integrated European energy network - COM(2010)677**, proposes the setting up of priority corridors for electricity, natural gas and oil transport, one of them is called „North –South interconnection initiative”. The aim is to consolidate the regional cooperation in Central and Eastern Europe in order to integrate energy networks, diversify routes and sources in order to consolidate security of supply and promote market development. The states taking part in this initiative are: Bulgaria, Poland, Romania, Slovakia and Hungary. The initiative focused on the „interconnection” in terms of energy of the Baltic Sea with the Adriatic Sea and the Black Sea.

In order to implement this initiative a **high level working group** was established that came up with the proposal at the end of 2011, of a regional action plan concerning the natural gas pipelines development. A working group was established to discuss technical and regulatory issues. The European Commission presided over this group and the members comprised Line Ministry, TSO’s and energy regulators representatives. ANRE representatives were involved, contributing with technical and tariff methodologies information applicable at national level.

In the natural gas sector, the transmission system operator continued the implementation of the SCADA project for the national transmission system to ensure the compliance with the 1775/2005/EC Regulation provisions. Projects for developing interconnection with neighbouring countries were also initiated. Proceeding to renegotiate three intergovernmental agreements that regulate the legal regime of the three natural gas pipeline linking Isaccea and Negru Vodă were initiated at MECMA level with the Russian Federation and Bulgaria.

The available capacity of the national gas transmission system is still allocated on the “first-come, first served” principle.

Security of supply

Total gas consumption in 2011 amounted to 150,810,050.612 MWh, out of which 31,203,602.279 MWh was household consumption (20.69%). Domestic gas production in 2011 was 116,974,413.012 MWh, and import 34,199,233.770 MWh.

In 2011, the total number of natural gas consumers was 3,122,269 out of which 2,942,322 households.

The European Ten Year Network Development Plan established by the European Network of Transmission System Operators for Gas and which can be found on their web page www.entsog.eu, forecasts the evolution of natural gas production and consumption for the period 2011-2020.

Regarding the security of natural gas supply, in 2007 passed the Law no. 346/2007 on measures to ensure safety in natural gas supply, which transposes into national law the provisions of the 2004/67/EC Directive. The purpose of the law is to ensure an adequate level of safety in natural gas supply through transparent measures, non discriminatory and consistent with the existence of a competitive market for natural gas.

In this respect, the law sets out the role and the responsibilities of the authorities and operators from the domestic natural gas market and the special measures which are required to ensure an adequate level of safety in natural gas supply. A Coordination Commission was established

with the aim to develop annually an action plan for emergencies cases and to approve and monitor the necessary measures to ensure safety in natural gas supply.

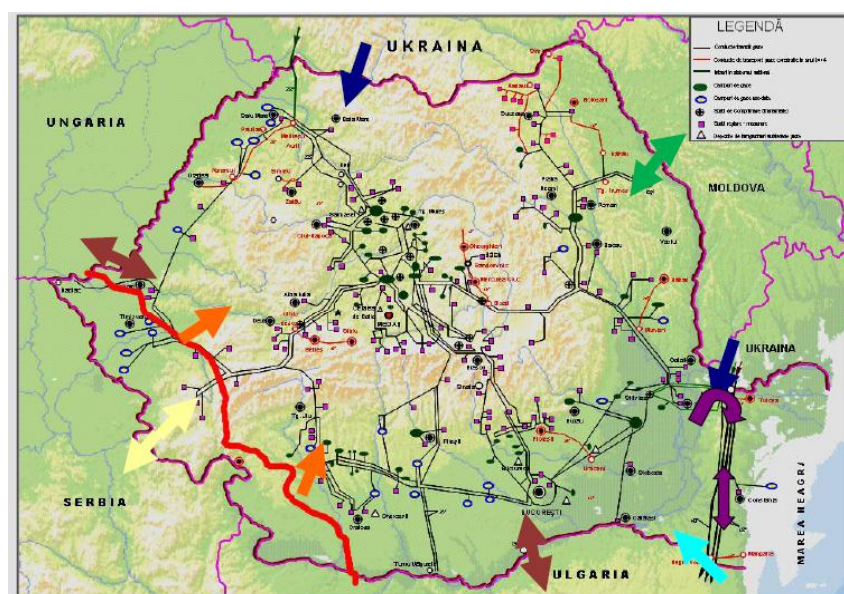
The national legislation will be amended during year 2012 following the requirements of the Regulation 994/2010/EC concerning measures to safeguard security of gas supply and repealing Directive 2004/67/EC. As regards the Regulation, the competent authority for implementing its provisions is the Ministry of Economy, Trade and Business Environment.

In Romania there are 8 underground storages out of which 7 were operational in 2011 (the Nades underground storage being with out activity in 2011) with a total capacity of 3.135 billion cm. The operational capacity was of 3.06 billion cm.

Currently, the natural gas import in Romania is carried out through:

- The natural gas import pipeline Orlovka – SMG Isaccea,
- The interconnection pipeline with the Hungarian natural gas transmission system on the import line Tekovo – Medieşul Aurit Metering Station,
- The interconnection pipeline with the Hungarian natural gas transmission system on the import line Szeged – Arad.

The present and future interconnections of the National Transmission System (NTS) with the transmission systems of the neighbouring countries are presented in *figure 2.2*.



Legend:



- Nabucco Pipeline
- Existing interconnections for import
- Strategic interconnections – Hungary and Bulgaria
- Interconnections for diversification of import
- Interconnections for developing new storage capacities
- Works to provide reversible flow of natural gas
- Diversification of the new import directions
- Other interconnections (Serbia)

Source: SNTGN Transgaz S.A

Figure 2.2

ANRE provide necessary regulatory framework to promote investment by issuing permits and licenses, issuance and approval of methodologies for pricing and tariffs, trade and technical regulations, development of access and users network connection rules.

3 Electricity market

3.1 Network regulation

3.1.1. Unbundling

Legal separation of the activities of generation, transmission, distribution/supply of electricity in Romania was made since 2000 by GD. 627/2000, after which CN Transelectrica SA took fully the transport/system services activity, becoming the only operator in Romania for these activities.

Subsequent steps in restructuring CN Transelectrica SA have strengthened this company's position as neutral and independent transmission and system operator. As an OTS, the company is the concessionaire of transmission service and public property goods for the transmission grid (> 110 kV) and ensures NPS functioning with maximum safety and stability, meeting quality standards and ensuring, at the same time, regulated access to the electricity transmission network in terms of transparency, non-discrimination and fairness to all market participants.

CN Transelectrica SA manages and operates the electricity transmission system and provides electricity exchanges between the countries of Central and Eastern Europe as a member of ENTSO-E (European Network of Transmission and System Operators for Electricity). The transmission length is approx. 9781 km (overhead lines).

Ownership of CN Transelectrica SA is as follows: 58.7% of the share capital - the Romanian state through OPSPI, 13.5% of the share capital – Foundul Proprietatea S.A., 22.7% of the share capital - private shareholders - legal entities and individuals, 5.1% of share capital - SIF Oltenia. The company has been listed on the Stock Exchange since August 2006.

The 2009/72/EC Directive provides clear rules for separating transmission and system operator regarding the ownership that meet the following three models:

1. The total separation of ownership
2. The independent system operator
3. The independent transmission operator.

Under the circumstances that the electricity transmission network in Romania is state public ownership, the chosen unbundling model was **the independent system operator**. This model allows the certification of transmission and system operator in compliance with the EU provisions, while preserving existing legal regime of ownership, ensuring an effective separation of interests relating to transmission of electricity from those related to the production and supply of electricity.

To this end, the new law for electricity and natural gas - Law no. 123/2012, sets out clear requirements of independence for which is responsible the transmission and system operator, as well as the transmission network owner. The ministry of resort is the institution that proposes the legal person to perform the function of transmission and system operator and its final decision of certification belongs to the regulator (ANRE), based on approval of European Commission.

In order to get certification, for full implementation of the provisions on the independence of the transmission and system operator, is required to designate two distinct public bodies (eg two ministries) to exercise control separately, on the one hand, of the transmission system and operator, and on the other hand, of the producers and suppliers of energy.

In accordance with the law, the transmission system operator carries out the following main activities:

a) provides long-term capacity of the transmission grid to meet reasonable demands for electricity transmission and operates, maintains, rehabilitates and develops under economic conditions the transmission grid in order to ensure safety, reliability and efficiency, in compliance with environmental regulations;

b) ensures adequate resources for public service obligations;

c) contributes to the security of electricity supply by ensuring adequate transmission capacity and maintaining their reliability;

d) ensures the management of energy flows in the transmission grid, taking into account energy exchanges with other interconnected power;

e) purchases technological system services and qualifies dispatchable producers and customers providing technological system services, based on own procedures, approved by the competent authority;

f) exchanges information with other transmission system operators interconnect and with other economic operators in the energy sector, with compliance to ENTSO-E regulations on information exchange protocols, reports, structure and procedures for access to databases;

g) ensures allocation of interconnection capacity, collects revenues from congestion management and makes payments under the compensation mechanism between transmission and system operators in accordance with Article 13 of Regulation (EC) no. 714/2009, granting and managing third party access and giving reasoned explanations when refusing such access under the supervision ANRE;

h) operates, maintains and develops facilities for measurement and metering energy transfer of electricity transmission grids and at interface with electrical transmission grids own users, computers and telecommunications facilities within the transmission grid of SEN;

i) reviews and approves fulfillment of technical connecting conditions by the electricity transmission grid users, in accordance with the technical regulations in force;

j) ensures the transmission of electricity measurement results to the market operator in order to achieve settlement of transactions in the balancing market and of imbalances of balance responsible parties, as well as beneficiaries access for checking measurement groups;

k) conducts operational planning and management of the NPS at central and local level on its own forecasts, according to legal regulations in force, giving priority to generating installations using renewable energy sources or generating electricity in high efficiency cogeneration, as far the safe operation of the national electricity grid permits;

l) authorizes staff that conducts operational, according to regulations in force;

m) collects, records and stores statistical data on the operation of NPS;

n) prepares and submits for approval to the competent authority specific technical standards and necessary regulations for carrying out the operative management, with the consultation of electricity market participants;

o) prepares, under the law, defense plan of the NPS plan against major disturbances;

p) develops education programs and works on the development of NPS;

q) prepares and submits for approval to the competent authority rules on congestion management, including interconnection capacity and the allocation rules for interconnection capacities;

r) organizes and manages the electricity balancing market.

In 2011, in the Romanian electricity market have operated a total of 41 electricity distribution licensed operators, of which 8 with more than 100,000 customers each. All 8 companies have completed the legal process of unbundling electricity distribution and supply activities. Electricity distribution operators with less than 100,000 customers don't have the mandatory legal requirement for unbundling the distribution from other activities of the company in accordance with Directive 72/2009/CE.

Ownership structure of the 8 distribution operators holding more than 100,000 customers is as follows:

- 1. SC CEZ Distribuție SA:** CEZ a.s. - 100% share capital;
- 2. SC Enel Distribuție Banat SA :** Enel Investment Holding B.V., owner of 51,003 % of shares, S.C. Electrica S.A., owner of 24,869 % of shares, Fondul Proprietatea S.A., owner 24.128 % of shares;
- 3. SC Enel Distribuție Dobrogea SA:** Enel Investment Holding B.V.- owner of 51,003 % of shares, S.C. Electrica S.A.- owner of 24,903 % of shares, Fondul Proprietatea S.A. - owner of 24,094 % of shares;
- 4. SC E.ON MOLDOVA DISTRIBUȚIE SA:** 51% - E.ON Romania S.R.L.; 27 % - S.C. Electrica S.A.; 22 % - Fondul Proprietatea S.A.;
- 5. SC FDEE Electrica Distribuție Transilvania Sud SA, SC FDEE Electrica Distribuție Transilvania Nord SA, and SC FDEE Electrica Distribuție Muntenia Nord SA,** have the following shareholding structure: 78 % S.C. Electrica S.A.; 22 % Fondul Proprietatea S.A.;
- 6. SC Enel Distribuție Muntenia SA :** Enel Investment Holding B.V - 64.43 %, SC Electrica SA - 23.57%, Fondul Proprietatea SA - 12 % .

Each supplier resulting from separation of supply and distribution activities, called default supplier, remained with the obligation to supply electricity at regulated tariffs to final consumers (households and non-households that have not used their eligibility right yet within their assigned license zone. In July 2011, SC Electrica S.A. was established through the merger of three subsidiaries supply namely: Electrica Transilvania Sud, Electrica Transilvania Nord SA and Electrica Muntenia Nord. Thus, the default supplier's number was reduced from 7 to 5.

There are also activities that are carried out by the default supplier on the account of the affiliated distributor, such as the purchase/selling on the DAM and/or the purchase of transmission/system/market settlement services to cover the network losses needs.

Both transport company and distribution companies have offices, logo and web page.

Financial statements of TSO and distribution operators are published separately.

The regulator sets out detailed rules on separation costs. These rules are included in the license conditions granted for transmission and distribution activities and in the methodologies for calculating grid tariffs. Regulations in force stipulate sanctions for breaches in unbundling requirements.

3.1.2. Technical functioning

Balancing market

The balance between electricity supply and production is established on a commercial basis, in real time, on the Balancing Market (BM). Operating rules for the balancing market were established by ANRE Order no. 25/2004 regarding the approval of the Commercial Code for wholesale market, as amended and supplemented. New legislation adopted in June 2012 does not alter the powers of the regulator in setting the rules in this market.

To ensure availability of sufficient energy to balance the system, the TSO contract reserves (technological system services) for periods of one year maximum (regulated contracts or concluded on the technological system services market). Each contract for reserves establishes the obligation of the seller to hourly provide TSO a certain amount of reserves, of a particular type, the suitable power reserved must be available on BM.

BM begins the day before, after physical notifications were accepted by TSO and ends on the end of the day of delivery. BM is a compulsory market, which means that participants who

operate dispatchable units are required to bid on this market all available electricity. On BM is traded the balancing energy appropriate to secondary, fast tertiary and slow tertiary regulation.

The balancing energy is assured by :

- a) increasing power by increasing production of dispatchable unit or by saving consumption of a consumer or a dispatchable pumped storage power plant that is registered as dispatchable consumption;
- b) reducing power, respectively by reducing production of a dispatchable unit or by increasing consumption of pumped storage power plant registered as dispatchable consumption.

BM participants must submit daily bids for the amount of balancing energy they can make available in each dispatch interval (60 minutes) to increase power and reduce power.

All valid offers on the balancing market establish the obligation of a BM participant to deliver the amount tendered on BM when it receives order from the TSO.

On BM are paid only actually delivered energy balancing quantities. Payment for balancing energy corresponding to secondary regulation is based on the marginal price of the selected bids and for the tertiary regulation payment is at the price of the selected bid.

Each license holder must assume financial responsibilities towards the TSO for physical balance between measured production, scheduled purchases and *imports* of electricity, on the one hand and measured consumption, scheduled sales and electricity *exports*, on the other hand, to one or more *points of connection* and/or one or more *transactions*. Balancing responsibility is assumed by the BRP, established by the TSO on the license holders requests. A licensee holder can register as BRP or can transfer responsibility for balancing to an existing BRP.

If a BRP imbalance is negative, it will pay the amount of electricity bought from TSO for balancing, with the hourly price for energy deficit, and if a BRP imbalance is positive it will sell the excess energy to TSO on hourly price for surplus power.

Surplus energy price is determined for each dispatch interval as the ratio of revenue from balancing system and the amount of balancing energy supplied to provide power cut during the respectively dispatching period. Lack of energy price is determined for each dispatch interval as the ratio of payments to balance the system and the amount of balancing energy supplied to provide power increase in the respectively dispatch interval.

Imbalance settlement is made after determining the measured values for all measurement points of the participants, challenge/settling disputes/approval by the participants of the values and their aggregation on BRP's, accordingly to the aggregation formulas announced to the measurement operator, under these conditions, imbalance settlement is at about 2 months after the end of the month of delivery. The market model leads to the realization of TSO income/net cost after balancing system and their calculation and their redistribution to suppliers are made at the same time, proportionally to the consumers' consumption fed by each of them.

For Romania is defined a single balancing area, operated by a single licensed system operator/balancing market operator, CN Transelectrica SA. Interaction with other control areas is made through mutual cooperation exchange inter-TSO, and not by accepting the offers that are integrated into a common merit order.

Performance standards and issues regarding connection to the network

The performance standard for transmission services was revised in 2007, being approved by ANRE Order no. 17/2007.

The main performance indicator for continuity of electricity transmission is the average interruption - AIT (Average Interruption Time), which is equivalent to the average time, in minutes, in which the power supply was interrupted. The evolution of this indicator is shown below:

| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|-------|-------|-------|-------|-------|-------|-------|
| Average Interruption Time (AIT), min/year | 4.434 | 1.187 | 0.857 | 1.792 | 0.817 | 2.639 | 1.059 |

Starting with 1st of January 2008 the *Performance Standard for Electricity Distribution Service* is in force, approved by ANRE Order no. 28/2007. The standard requires distribution operators to monitor the continuity of electricity supply, which requires registration of all longtime interruptions (any interruption longer than 3 minutes). By the end of 2012, the technical equipment necessary to ensure automatic recording of the medium and high voltage interruptions will be functional.

Monitoring power supply continuity is achieved by SAIFI and SAIDI indicators calculation for each voltage level, separately for rural and urban areas. Also SAIFI and SAIDI indicators are divided into the following categories:

- a. planned interruption,
- b. unplanned interruptions caused by major force
- c. unplanned interruptions caused by users,
- d. unplanned interruptions, excluding those caused by major force and users.

The most important values are indicators for planned interruptions (a) and for unplanned interruptions (d), caused by distribution operators.

The average values of **2011** for Romania are listed below.

| Place | SAIFI (interruptions/year) Planned interruptions | SAIFI (interruptions/year) Unplanned interruptions caused by DO | SAIFI (interruptions/year) Total interruptions |
|------------------------|---|--|---|
| Urban | 0.5 | 4.0 | 4.5 |
| Rural | 2.2 | 7.6 | 9.8 |
| Average country values | 1.3 | 5.6 | 6.9 |

| Place | SAIDI (min/year) Planned interruptions | SAIDI (min/year) Unplanned interruptions caused by DO | SAIDI (min/year) Total interruptions |
|------------------------|---|--|---|
| Urban | 122 | 270 | 392 |
| Rural | 582 | 860 | 1442 |
| Average country values | 333 | 547 | 880 |

Procedures and steps of connection process and connection tariff is regulated by the *Regulation for connecting users to public networks*, approved by Government Decision no. 90/2008 and by secondary legislation issued by ANRE.

Also through the performance standard of distribution service are monitored indicators such as **the average time to issue technical connection permits** or **the average time for issuing connection contracts**.

The average time to issue technical connection permits in 2011 was 14.5 days. Generally the maximum period of 30 days was respected, with one exception only, ENEL Muntenia, which had a much larger number of applications and therefore the average time was 32.4 days.

The average time to issue connection contracts was 5 (ie 4.7) days, ranging from 1 day for Enel Banat to 10 days for Enel Dobrogea and Enel Muntenia. It is noted that the standard term for issuing a connection contract offer is 10 calendar days from filing the application (with full documentation), the average time being in the legal term for all DOs.

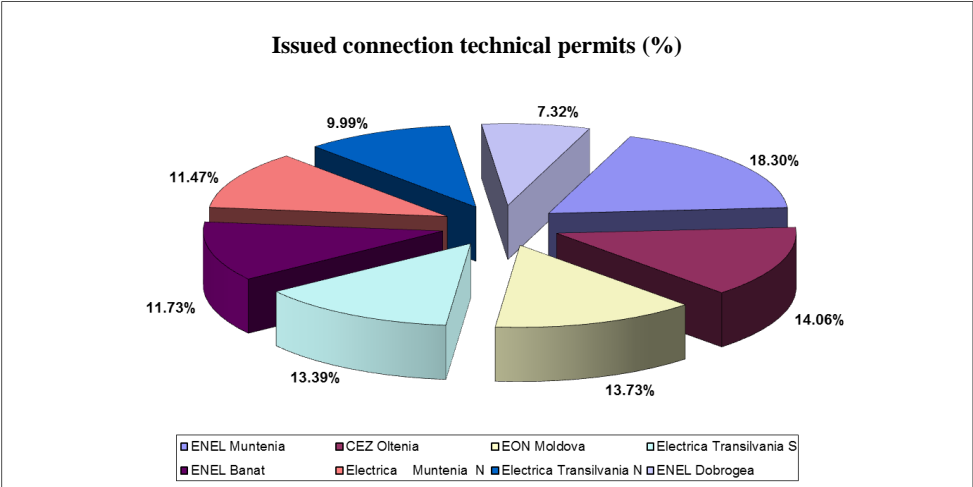


Figure 3.1

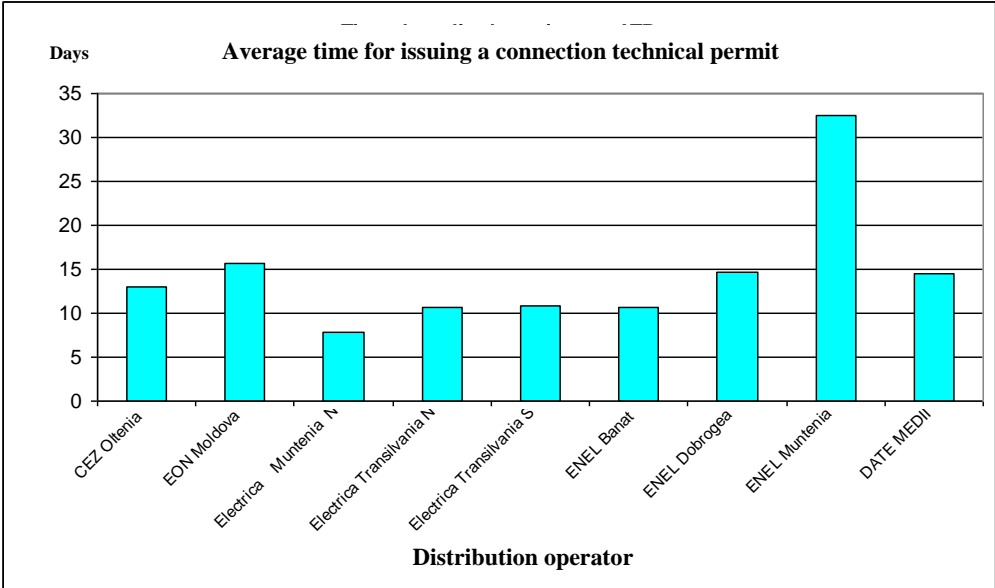


Figure 3.2

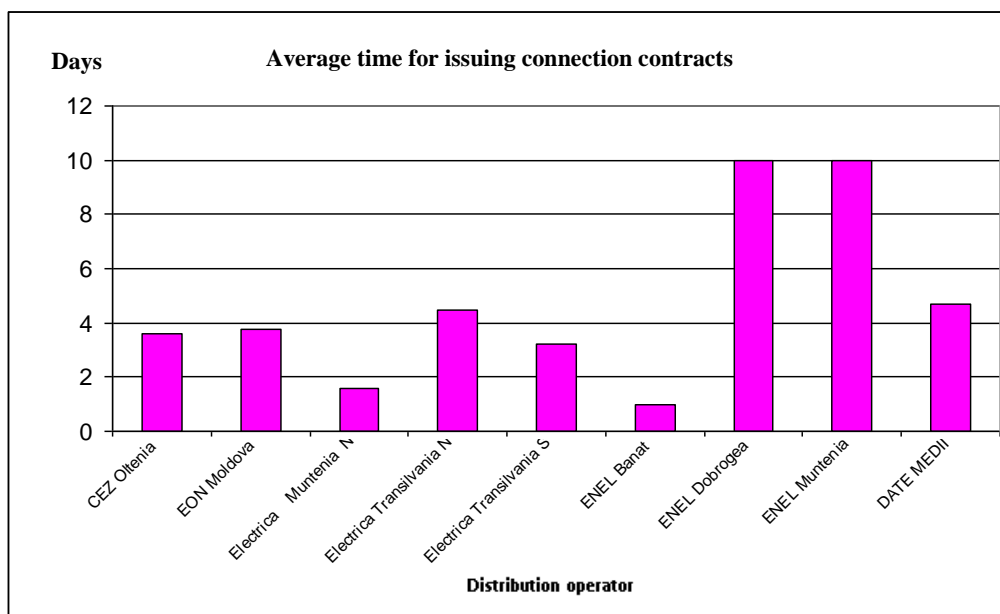


Figure 3.3

Monitoring technical co-operation between TSO and third-country TSOs

Regional cooperation on infrastructure projects is a significant dimension of the TSO's activity – CN Transelectrica SA - in terms of working with power systems of neighboring countries. In this regard were signed a series of contracts such as:

- CN Transelectrica SA and EMS-JP Elektromreza – **Serbia** signed on 13 October 2011 in Belgrade, Joint Position Paper 3 for approval of the feasibility study and technical project results to continue Project LEA 400 kV double circuit Reșița - Pancevo;
- CN Transelectrica SA and IS Moldelectrica – **Republica Moldova** signed Addendum of the agreement between RENEL and Moldenergo of 15.07.1993, "On integration links between power systems in Republica Moldova and Romania";
- CN Transelectrica SA and NEK Ukrenergo – **Ucraina** signed on 01.06.2011 in Kiev, a Memorandum of understanding on cooperation in the transmission of electricity;
- For the interconnection project of power systems of Moldova and Ukraine in ENTSO-E, Ministry of Economy of the Republic of Moldova and the Ministry of Economy, Trade and Business Environment of Romania submitted to the European Commission the request for a grant relating to feasibility study for the integration of power systems of Moldova and Ukraine to the ENTSO-E. The project has been preselected by the Joint Monitoring Committee of the Programme of major investment projects (Large Scale Projects - LSP) of the European Neighbourhood and Partnership Instrument (ENPI) regional program on Joint Operational Programme Romania - Ukraine - Republic of Moldova 2007 -2013;
- Cooperation with State Grid Corporation of **China** - CN Transelectrica SA and Chinese Company signed on May 9, 2011, in Beijing, a Memorandum of Understanding on energy cooperation;
- Cooperation with TEIAS - **Turkey** - the feasibility study, contracted by CN Transelectrica SA with Swedish firm VPC- Vattenfal for HVDC Submarine Cable Project Romania - Turkey, was completed during 2011 and consultations were held between the two parties for agreeing on the financing and implementation of this project.

Monitoring safeguard measures

In 2011 there was an unexpected crisis in the energy market that threatened the physical safety or security of persons and obliging to take safeguard measures.

3.1.3. Network tariffs for connection and access

Methodology for setting up electricity transmission tariffs, approved by ANRE Order no. 60/2007, regulates the determination of income and calculation of tariffs for electricity transmission. Transmission service charge is determined using a methodology **revenue cap**. By applying this type of incentive regulation was intended to ensure:

- fair allocation, between the TSO and the transmission service beneficiaries, of the proceeds obtained from the increase in efficiency beyond the target set by the competent authority;
- efficient operation of the transmission company, prevention of any possible benefits the transmission system operator may gain from its monopolistic position
- promotion of efficient investments in the electricity transmission grid;
- promotion of efficient maintenance and operation practices;
- efficient use of the existing infrastructure, continuous improvement of the transmission service quality
- financial viability of the transmission company
- public and transparent information on the regulatory process.

The regulated income for the transmission service is ex-ante determined by ANRE for a regulatory period of 5 years, with the exception of the first regulatory period of 3 years. The impact of inflation over costs is covered through the annual retail price index applied to tariffs in real terms.

Transmission tariffs differ by nodes (zones) depending on the impact of the injection or extraction of electricity into/from the nodes of the transmission grid. This impact is expressed as the transmission nodal marginal cost. Transmission tariffs are approved annually by ANRE and come into force at the beginning of each fiscal year.

The following data are requested by the regulator to justify the TSO costs:

- regulated assets base;
- controllable and uncontrollable operation and maintenance costs;
- depreciation of the existing assets and of the investments commissioned annually;
- acquisition costs to cover electricity losses;
- acquisition of electricity costs associated to congestion elimination through re-dispatching;
- costs with the electricity cross-border exchanges.

Regulated revenue cap for the transmission service is ensured taking into consideration the:

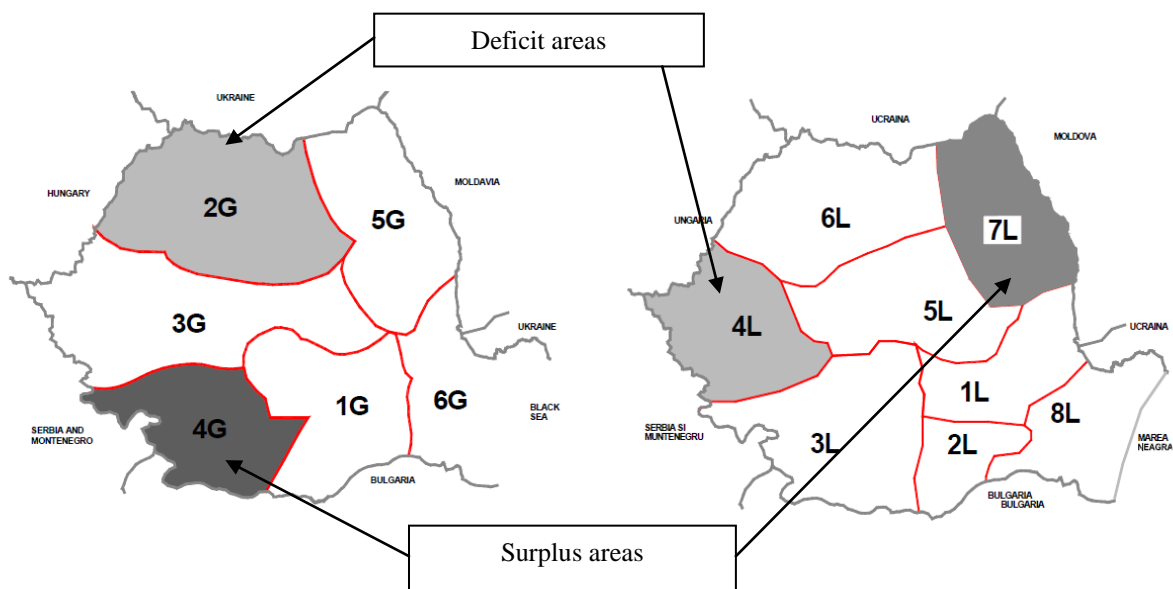
- provisions stipulated in the performance quality standards imposed to the TSO through the *Transmission Grid Code*, the Romanian legislation or the contracts signed with the transmission service beneficiaries;
- evolution of the transmitted electricity quantity, estimated by the TSO;
- modification of losses level in the transmission grid;
- profitability of the regulated assets base.
- tariffs evolution, expressed in a smooth manner, within a regulatory period;
- all the transmission service fees paid by the TSO;

- financial viability of the TSO.

The activity of TSO in 2008, 2009, 2010 and 2011 was monthly monitored for the calculation of the corrections for the regulated transmission service tariff from 2012.

In terms of quality of the regulated service, the *Methodology to setting up tariffs for the electricity transmission service* considers a correction factor with respect to the compliance with the minimum performance parameters for the second regulatory period (2008-2012). This factor will be introduced in the calculation formula for the yearly revenues. The level of revenues associated to the penalty-bonus risk due to non-compliance with the quality indicator, will not exceed 2% of the revenues.

TSO provides market participants with information on the average transmission tariff, rates and extraction zone input power to/from network transport regulations connection to the public transport users.



Source: ENTSO-E

Figure 3.4 Injection and extraction electricity zones in transmission grid

Average transmission tariff approved by ANRE Order no. 45/2010 was in 2011 of 18.77 Euro / MWh, an increase of 10.4% from that of 2010 (17 lei / MWh).

The average transmission developments in the second regulatory period (2008-2011) is shown in Figure 3.5 below:

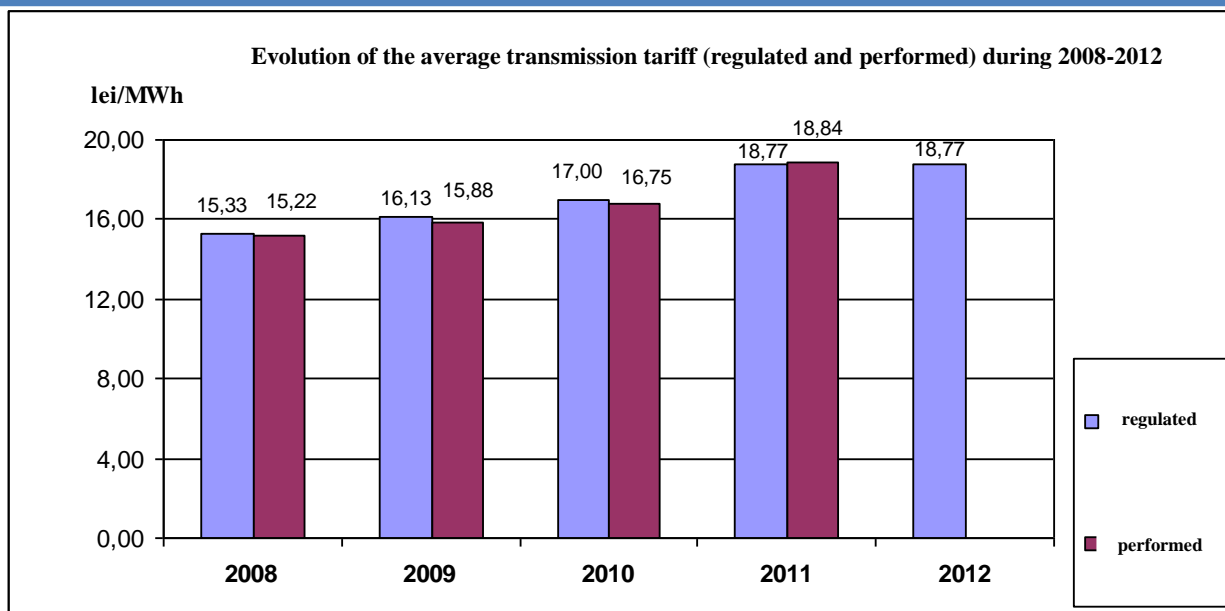


Figure 3.5

According to ANRE Order no. 45/2010, during 2011, the average injection tariff (T_G) was 8.6 lei/MWh. The T_G value for the six injection zones is ranged within $6.36 \div 10.22$ lei/MWh. The average extraction value (T_L) for the 8 extraction zones was 10.18 lei/MWh with values ranged within $8.14 \div 11.87$ lei/MWh.

The planning for the development of the electricity transmission grid is based on the provisions of the *Transmission Grid Code*. The Code details the tasks, competencies and responsibilities of CN Transelectrica SA and stipulates the principles, the criteria and the obligations regarding the planning activity.

The planning of transmission grid development seeks to:

- Ensure the appropriate sizing of the transmission grid for the transmission of the generated, imported, exported or transited electricity and determine the prospective development plan;
- Ensure the safe operation of the NPS and the transmission of electricity at a quality that is in compliance with the requirements of the Grid Code and of the Performance Standard for transmission and ancillary services;
- Ensure the development planning activities by: initiating the procedures required for the promotion of new and efficient investments in the transmission networks, estimating the marginal costs on long run for each node of the transmission network, providing the database for the design of the transmission tariff systems.

Every two years, CN Transelectrica SA issues the prospective development plan of the transmission grid for the following 10 successive years. Following the endorsement and the approval of ANRE and, respectively of the competent ministry, the plan becomes a public document to ensure the followings:

- System adequacy provided that the activity is safely and efficiently performed, in compliance with the national energy policy.
- Correlation of the activities of the TSO and of the electricity market participants with respect to any requested service that may affect the safe operation of the NPS.
- Zone opportunities for the electricity transmission network connection and use, depending on the consumption forecast and on the need for new installed capacities required for an efficient and safe operation.

-
- Setting up the reserve level in NPS for electricity generation and transmission under peak load conditions according to the sizing requirements.

It should be noted that the adoption of the independent system operator model introduces a number of amendments to existing legislation including the approval of the investment and development of the transmission network plan over 10 years only by the regulator.

The electricity grid is sized in compliance with the requirements of the N-1 criterion. Verification of the N-1 criterion is performed for the maximum forecasted power transfer through the grid. For the transmission grid (400, 220 kV), the N-1 criterion is applied to the sizing of the NPS sections for a time interval corresponding to the most difficult operating conditions, by taking into consideration: the unplanned outage of the largest generating unit in an area with power deficit and the maximum power generated in an excess area. The N-2 criterion is used upon the sizing of the NPP power eviction.

Among other sizing criteria are the technical criterion for the verification of the size of the network in terms of NES stability, as well as verification and determination of the short-circuit ceiling and nominal flow of equipment.

System or zone studies, pre-feasibility, feasibility studies and technical projects are carried out for each identified objective.

In determining the technical and organisational solutions for investment in new transmission capacities one must take into consideration the system restrictions that may occur in order to be avoided.

ANRE approved Perspective Plan (PP) of RET - period 2010-2014 and development guidelines for 2019 (ANRE endorsement letter no. 31/12.08.2011). The main investment proposed to be made under Perspective Plan (PP) RET - Period 2010-2014 and 2019 guidance are as follows:

- OEL 400 kV d.c. Reșița - Pancevo (interconnection line with Serbia)
- OEL 400 kV s.c. Suceava - Bălți (interconnection line with Moldova)
- Connection of OEL 400 kV Isaccea – Varna and OEL Isaccea - Dobrudja in Medgidia Sud station (interconnection line with Bulgaria)
- OEL 400 kV Porțile de Fier - Reșița - Timișoara - Săcălaz - Calea Aradului - Arad
- OEL 400 kV s.c. Gădălin - Suceava
- OEL 400 kV Cernavodă – Stâlpu.

Investments in grid development are recovered through transmission tariff, set by the competent authority on the basis of justified cost, in terms of a reasonable profit.

Distribution tariffs (lei/MWh) are of monomial type and are differentiated by three voltage levels: high voltage (110 kV), medium voltage, low voltage and by distribution operators. The regulator sets up distribution tariffs for each distribution operator. Distribution tariffs are calculated according to a tariff basket- price-cap methodology, issued in compliance with the GD no. 890/2003 regarding the “Romanian energy sector road map”. Based on this regulation method, regulation periods are set for 5 years, excepting the first period which was only for 3 years (2005-2007). Considering that since 2008 the second regulation period has started, with **ANRE’s Order no. 24/2010** it was accomplished the completion of tariff setting methodology for energy distribution system / Revision 1, approved by ANRE Order no. 39/2007.

The following justified costs are considered when setting up the distribution tariffs:

- Operation and maintenance of the distribution network
- Purchase of electricity to cover network losses
- Depreciation of assets composing the regulated asset base
- Return of assets
- Necessary working capital.

The tariff cap for the second regulatory period was 12% .Additionally, distribution tariff caps may be imposed by the regulator for each voltage level. This type of incentive regulation was implemented in order to:

- a) Ensure an efficient regulatory environment;
- b) Ensure fair allocation of revenues obtained from the increase of the efficiency beyond the targets set by the competent authority between the distribution operator and the distribution service beneficiaries.
- c) Ensure financial viability of the distribution companies;
- d) Ensure efficient operation of the distribution companies;
- e) Prevent the distribution operator's abuse of dominant position;
- f) Promote efficient investments in the electricity distribution network;
- g) Promote efficient practices for the electricity distribution network operation and maintenance;
- h) Ensure the efficient use of the existing infrastructure;
- i) Ensure the distribution network safe operation;
- j) Improve the quality of the distribution service
- k) Ensure a transparent approach regarding the regulatory process.

For the second regulatory period, the value of the efficiency factor X applicable to the controllable operation and maintenance costs was set by the regulator to 1%.

The regulated rate of return (RRR) is calculated in real terms based on the average weighted cost of capital before tax. For the distribution operators with majority private capital, in accordance with the privatization commitments, the RRR value in real values before tax was 10% for each year of the second regulatory period (2008-2012). For distribution operators with full state-owned capital, the RRR value may be decreased by the country risk component and by the private investor's risk.

An annual investments forecast is taken into consideration when calculating the distribution tariffs, a reconciliation of the forecasted and the real investments being made at the end of the regulatory period. For the second regulatory period losses reduction programmes have been assumed by the main electricity distribution operators so that by the year 2012 the level of losses may be lowered to 9.5% of the electricity injected into the network. Only power purchasing costs required to balance the network losses associated to the reduction programme are covered through the distribution tariffs.

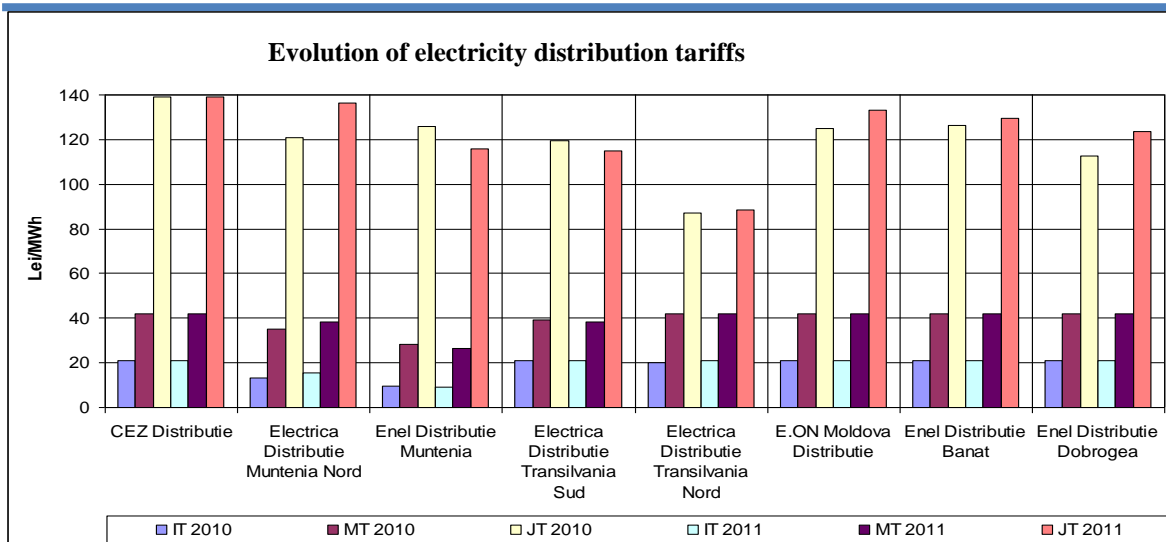


Figure 3.6

In 2011 was distributed an amount of 42318 GWh of electricity, up 3.6% compared to 2010, when it distributed a quantity of 40851 GWh.

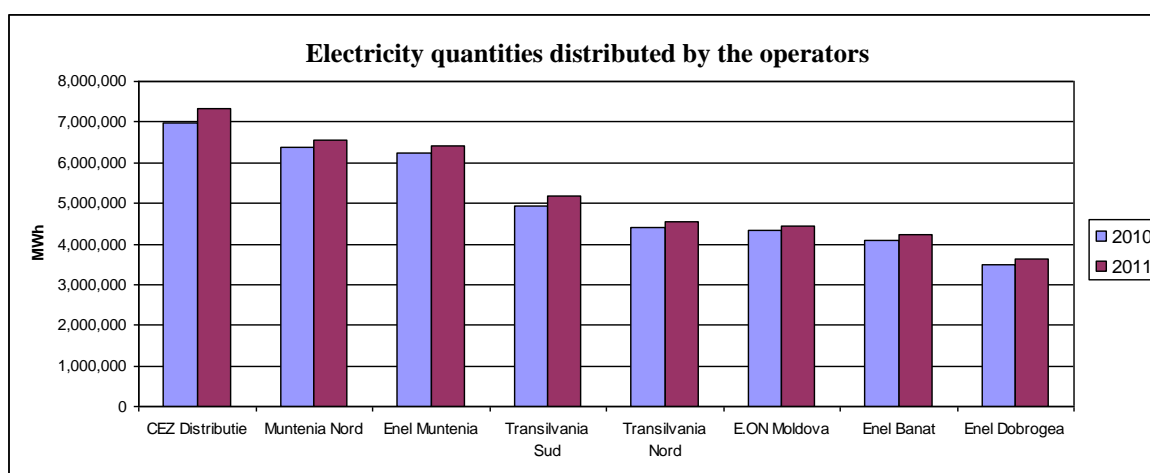


Figure 3.7

Share of electricity distributed in 2011 by main distribution operators is shown in figure 3.8.

For the distribution operators with less than 100,000 customers, the tariffs for the service of electricity distribution is calculated according to the *Methodology to setting up electricity distribution tariffs for legal persons, other than the main electricity distribution operators, and the conditions for the retransmission of electricity* (ANRE Order 3/2007). The adopted type of regulation is the “cost plus” method; a maximum rate of return of 5% is considered upon the total justified costs.

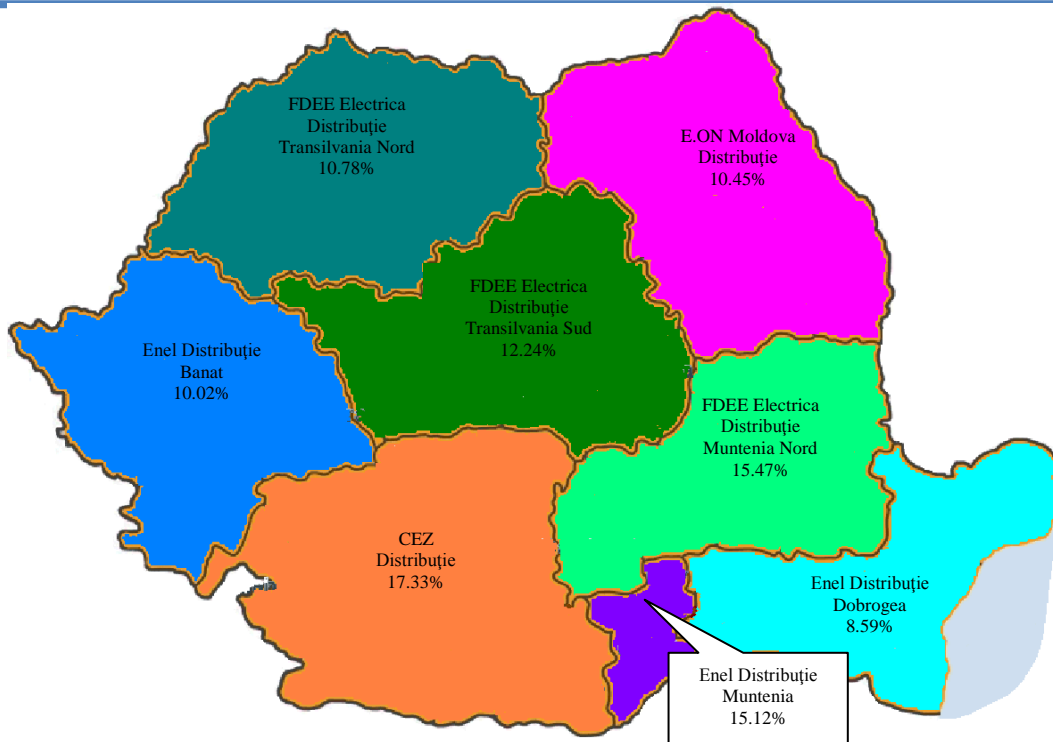


Figure 3.8

The activity developed by the main distribution operators are monitored on monthly basis according to ANRE Decision 1136/2010 for the approval of the templates to monitoring the distribution operators' activity and of the associated guidelines.

Connection tariffs

Procedures and steps in the connection process, as well as the connection tariff are set up in the *Regulation for the connection of users to public electricity networks*, GD no. 90/2008, and secondary legislation issued by ANRE.

3.1.4. Cross-border issues

The allocation of transmission capacity on the interconnection lines with neighboring power systems in 2011 worked at CN Transelectrica SA (Romanian TSO) accordingly to coordinated allocation mechanisms based on explicit auctions, implemented through bilateral agreements concluded with Hungarian and Bulgarian counterparts. On these two boundaries auctions are conducted for all time horizons mentioned in Regulation (EC) 714/2009 (yearly, monthly, daily and intra-day). The principle of netting applies for daily and intra-daily allocation. Trading currency is the euro.

Therefore, following an agreement for 2011 between CN Transelectrica SA and MAVIR-transmission system operator of Hungary, the interconnection capacities on the Hungarian border (import and export) were allocated by bilateral coordinated auctions on annualy, monthly and intra-day (organized by CN Transelectrica SA for 100% of the capacity) and daily (organized by MAVIR for 100% of the capacity) bases.

Similarly, according to the memorandum of understanding with ESO-EAD for 2011, CN Transelectrica SA organizes auctions for daily and intra-day allocation for the entire interconnection capacity on the border with Bulgaria, and the Bulgarian TSO organizes long term auctions.

Transparency on interconnections transactions is provided by CN Transelectrica SA through the publishing of information on the website www.transelectrica.ro, with the following specifications:

- since March 2011, CN Transelectrica SA put into operation a new platform for trading - DAMAS – where information on the auctions organized by TSOs and their results can be found;
- daily auction results about Romanian-Hungarian border are taken from MAVIR website;
- Long-term auctions results on the Romanian-Bulgarian border are provided by ESO-EAD.

On the border with Serbia, the Romanian TSO organizes annually and monthly auctions for allocation corresponding share of 50% of the exchange capacity available. In addition, negotiations have begun with the Serbian authorities on the implementation of coordinated bilateral mechanisms.

ANRE repeatedly analyzed provisions of the agreements concluded by the TSO and submitted opinions together with concrete measures, to ensure compliance with legal and regulatory framework in force.

On the border with Ukraine, Romanian TSO organizes annually and monthly auctions for allocation of entire interconnection capacity, its use being conditioned, as before, by written consent of Ukrainian authorities.

On the border with Republic of Moldova, with which Romania's national energy system is synchronous interconnected, energy exchanges are made through passive island of consumption.

Regarding the borders with the Republic of Moldova and Ukraine, ANRE requested the Romanian TSO to take measures in order to conclude Cooperation Agreements with the transport operators in these neighbouring countries that should clearly determine the manner in which the explicit auctions for the ATC allocation are being carried out.

There is no secondary capacities market organized within CN Transelectrica SA, nonetheless frequent capacities transfers among participants occur, especially after the monthly auctions, but which have to be announced according to the provisions in the Memorandums.

Concerning the cross-border issues, the regulatory authority was involved in the activity of the *Regional Market working group* which was organized at a national level and which comprises representatives from behalf of the TSO, the market operator, the line ministry, and the regulator. In this context bilateral meetings between the peer representatives from Bulgaria, Hungary, and Serbia took place, for developing the coordinated allocation and market coupling projects.

The partners from **Romania and Bulgaria** agreed on establishing a Group of Experts within ministries, national energy regulatory authorities, TSOs and Electricity Market Operators, as a discussion and decision forum in order to lay down an Action Plan regarding the coupling of the electricity markets in the two countries.

The regulatory authorities, TSOs and power exchanges from the **Czech Republic, Slovakia and Hungary** signed in 2011 a Memorandum on electricity market coupling, according to the model and principles applied in the region of North West Europe – NWE. Within this regional project, the partners reached a consensus on the harmonization of the market coupling principles and the used applications with the ones in the region of NWE (respectively, “Price Coupling of Regions – PCR” and COSMOS), the model recognized as being the starting point of the future model of the European Single Electricity Market.

On 14 December 2011, the Steering Committee of the Czech Republic-Slovakia-Hungary Market Coupling Project approved the Letter of Intent by which the transmission system operator (CN Transelectrica SA), the electricity market operator (SC OPCOM SA) and the national energy regulatory authority (ANRE) of Romania officialized their intention to join this project, in accordance with the “Memorandum of Understanding on Cooperation Leading to Creating a Functional, Interconnected and Integrated European Internal Electricity Market” signed between the TSOs (ČEPS, SEPS, MAVIR), the power exchanges (OTE, OKTE, HUPX) and the national regulatory authorities (ERU, URSO, MEH) of the Czech Republic, Slovakia and Hungary.

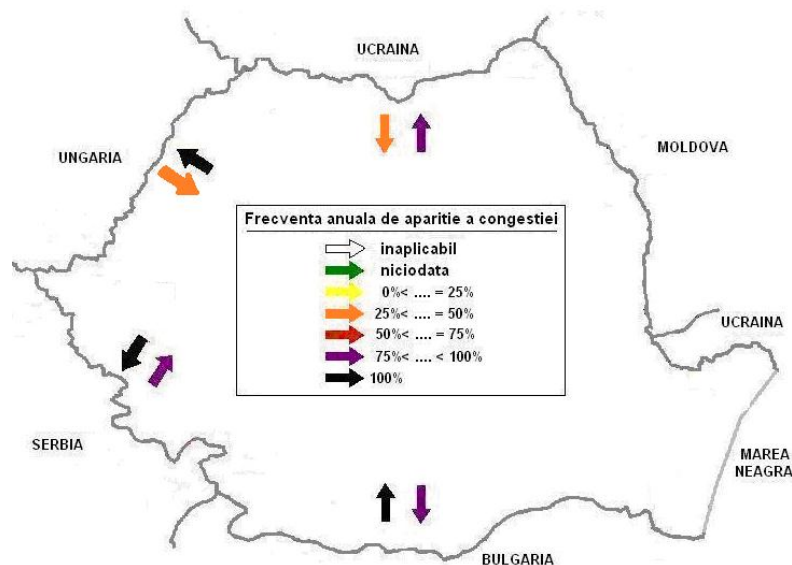
The actions of the Romanian entities are part of the general efforts undertaken by th Member States of the European Union following the decision of the Council of the European Union of February 2011 to set the year 2014 as deadline for the completion of a fully functional electricity market at pan-European level.

Situation of NTC allocations at the Romanian borders for 2011:

| 2011 | Ungaria | | Bulgaria | | Serbia | | Ucraina | |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | export RO | import RO | export RO | import RO | export RO | import RO | export RO | import RO |
| Numar zile congestie | 365 | 119 | 294 | 365 | 362 | 317 | 319 | 161 |
| Numar zile retrageri linii de interconexiune (pe granitele cu o singura linie de interconexiune) | — | — | — | — | 3 | 3 | 15 | 15 |
| Frecventa anuala de aparitie a congestiei (%) | 100 | 33 | 81 | 100 | 100 | 88 | 91 | 46 |
| Indice de severitate | 5 | 2 | 4 | 5 | 5 | 4 | 4 | 2 |

| Severity index | 0 | 1 | 2 | 3 | 4 | 5 |
|---|----|-------|--------|--------|---------|------|
| Annual frequency of congestion occurrence | 0% | 1-25% | 26-50% | 51-75% | 76%-99% | 100% |

The representation of the congestion severity index at the **monthly allocation** for each border and direction for 2011 is presented in the figure below:



Export notes:

- the most congested borders were the ones with Serbia and Hungary (100%);
- the borders with Bulgaria and Ukraine had the values of 81% an 91% respectively, as compared to the total level of 2011;

Import notes:

- the most congested borders were the ones with Bulgaria and Serbia (88-100%);
- the least congested was the border with Hungary (33%)

The highest value (100%) of the annual frequency of congestion occurrence for 2011 was reached on the export lines towards Hungary and Serbia and on the import line from Bulgaria.

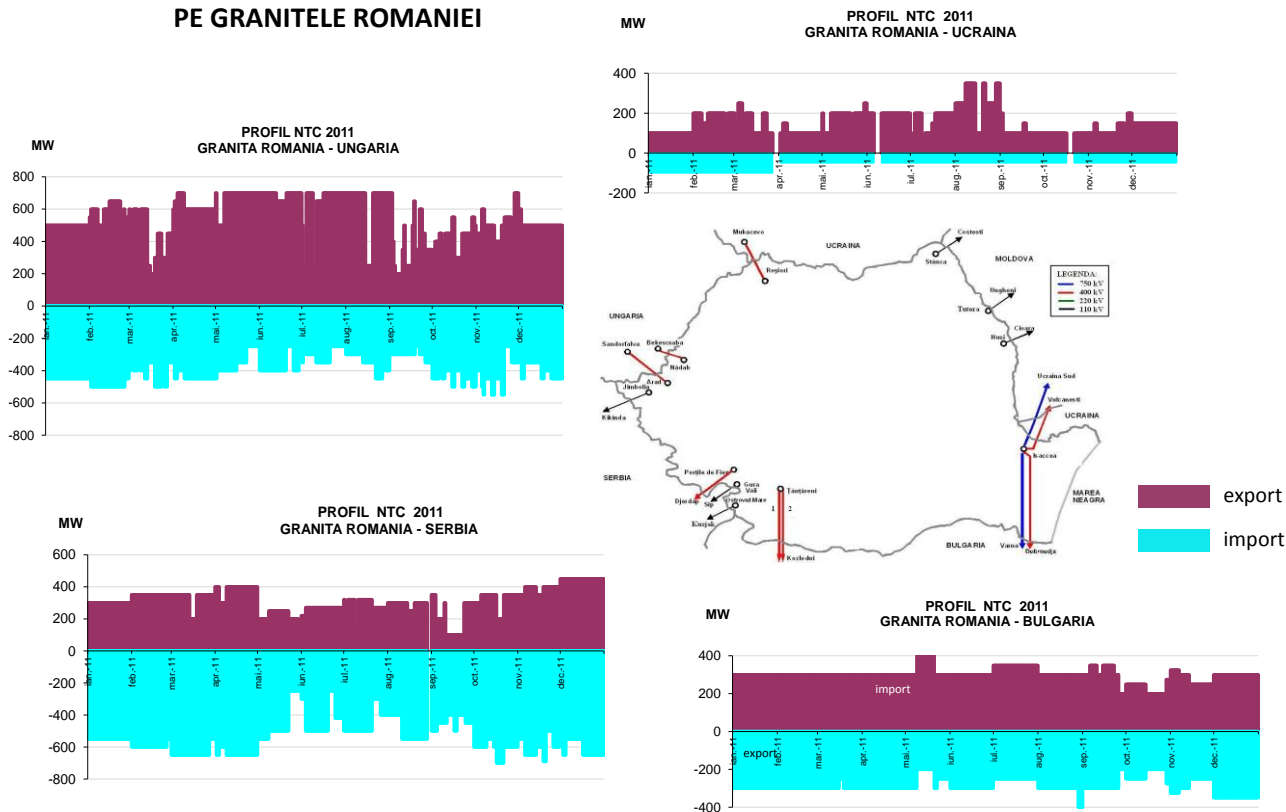
The congestion occurrence frequency at the daily allocation is presented in the table below:

| Direction | RO-HU (RO export) | HU-RO (RO import) | RO-BG (RO export) | BG-RO (RO import) |
|--|----------------------|----------------------|----------------------|----------------------|
| Frequency of occurrence at the daily allocation | 75 | 22 | 0 | 44 |

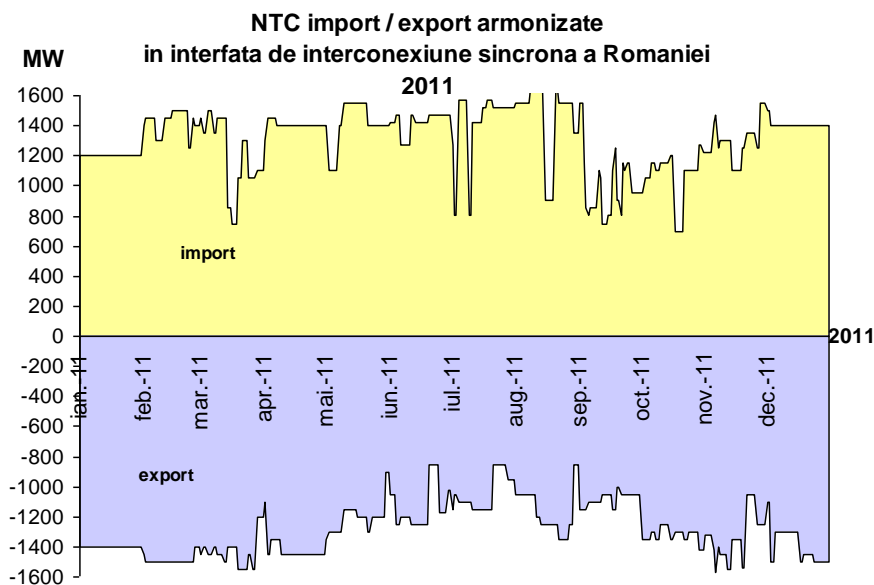
In 2011, on the borders with Hungary and Bulgaria no congestions were recorded upon common intra-day allocations.

The following charts show the monthly net transfer capacities on the Romanian borders in 2011:

PROFILUL VALORILOR NTC 2011 PE GRANITELE ROMANIEI



The firm NTC values calculated and agreed upon, for each border, are aggregated in the interconnection interface of Romania. In 2011, for the entire interface of Romania the following firm NTC values on each exchange line were obtained:



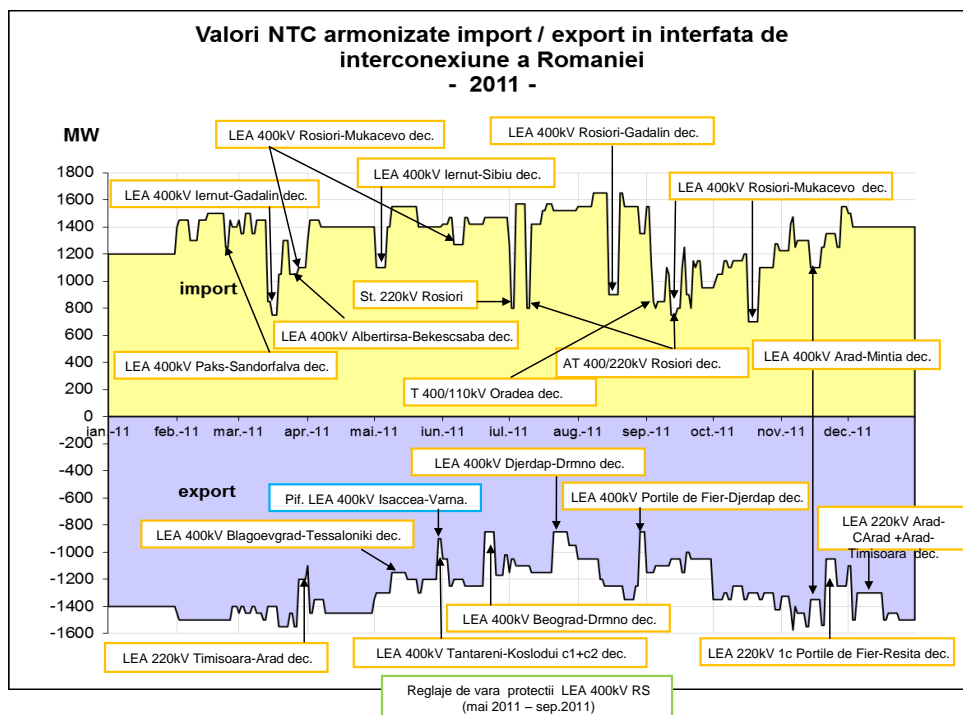
The maximum NTC values increased in 2011 as compared to 2010 due to the following factors:

- maintaining large summer controls for the protections on OEL 400kV Djerdap-Bor-Nis, leading to maintaining the increase of the export NTC in the NPS interface during summer;
- completion of the refurbishment works at the Gadalin station in December 2010, leading to the increase of import NTC in the NPS interface, particularly on the borders with Hungary and Ukraine;
- an increase in installed wind production in the Dobrogea region, leading to a better use of the interconnection OEL with Bulgaria;
- commissioning of the OEL 400kV Isaccea-Varna in June 2011, having positive effects on the export and import NTC, especially on the border with Bulgaria;
- the functioning of Turkey, connected to the interconnected continental grid, leading to a redistribution of cross-border exchanges and a better use of the interconnection OEL Isaccea-Bulgaria, having a positive effect on the export NTC;
- the economic recession, having led to the decrease in interconnection exchanges, the decrease in parallel exchanges generated in the NPS grid, the redistribution of cross-border exchanges, and a better use of the interconnection OEL with Hungary, having a positive (but temporary) effect on the export and import NTC.

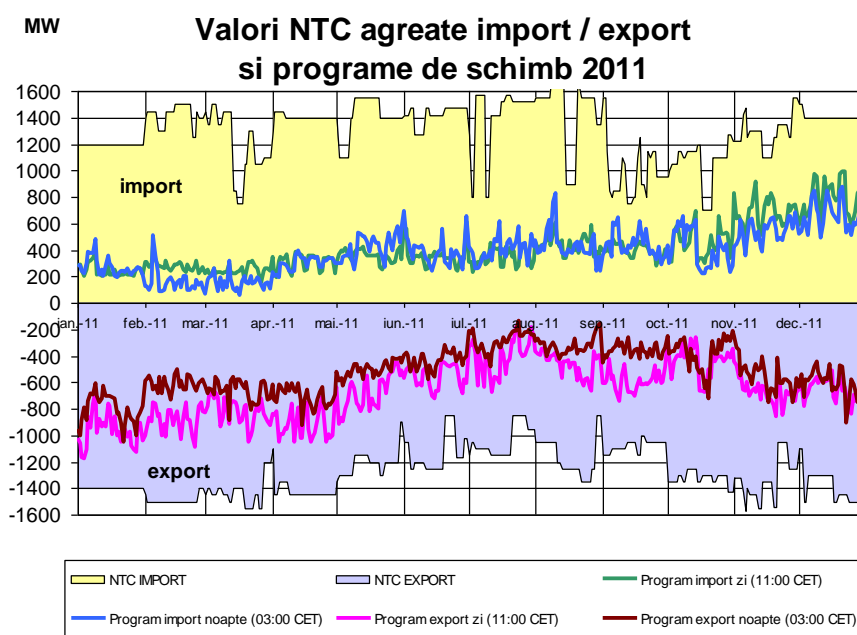
As compared to the maximum indicative non-guaranteed NTC values, the monthly firm net transfer capacities values for 2011 decreased for several reasons:

- although capacities are being allocated on all NPS borders, in the exchanges can actually be directed only towards destination area, including by successive allocations on several borders, which lead, in practice, to the preferential use of some of the NPS borders, causing decrease in the monthly values;
- developing simultaneous withdrawal schedules on interconnection lines and internal lines in the interconnected systems can cause congestions on the interface of Romania, the interface of its partners, or inside the systems;
- production levels in certain plants and area decreased the NTC values, especially in conjunction with schedules for operation withdrawals;
- switching from winter controls to summer controls of the projections (the overload step) inside the Serbian Power System and the reduction of the maximum admissible load of the lines led to the decrease of capacities in the Serbian and Romanian interfaces, but the effect was less significant because of maintaining higher summer controls on certain OEL 400kV within the interconnected power system.

In the figure below, the profiles of the export and import global net transfer capacities for 2011, as well as the factors leading to the decrease in export and import values (summer protection controls, withdrawal schedules) can be noticed:



Degree of use of the available capacities:



The exchange capacities with other systems, which are not synchronously interconnected with NPS, accomplished through passive consumption islands, were limited by the technical possibilities of connecting the Romanian grid with the Ukrainian and Moldovan grids to the following values:

- OEL 400 kV Isaccea – Vulkanesti – 360/200 MW – import/export;
- OEL 110 kV Stanca – Costesti - 50/50 MW – import/export;
- OEL 110 kV Tutora – Ungheni - 0/50 MW – import/export;
- OEL 110 kV Cioara – Husi - 50/50 MW – import/export.

3.1.5. Compliance, dispute settlement

The mission of the Romanian Energy Regulatory Authority (ANRE) is to regulate, monitor and control the functioning of the energy sector and the electricity and natural gas markets, in terms of competition, transparency, efficiency, and consumer protection, as well as to implement and monitor the energy efficiency measures at the national level, and to promote the use of renewable energy sources at the final consumers.

As an autonomous public institution of public interest and a legal entity, being under the subordination of the Prime Minister, ANRE is developing its activity according to its competencies, laid down by: Law 13/2007 regarding electricity, with subsequent amendments and complements, Natural Gas Law 351/2004, with subsequent amendments and complements, Government Ordinance 22/2008 regarding energy efficiency and promoting renewable energy sources at the final consumers, as well as by the Regulation for the Organization and Functioning of ANRE, approved by Government Decision (GD) 1428/2009.

From an institutional perspective, the attributions and competencies of ANRE are clearly defined by the primary legislation.

The orders and decisions issued by the President of ANRE in exercising his duties can be appealed in the Administrative Litigation Department of the Bucharest Appellant Court within 60 days following their publication in the Official Journal of Romania, Part I, respectively, starting the day of notification of the parties involved. The orders and decisions issued are mandatory for the parties involved, until a final, irrevocable court sentence is pronounced.

ANRE publishes annual reports on its regulatory activities and on the monitoring activities developed according to the law.

According to legal provisions, ANRE has the right to:

- to carry out controls regarding the economic operators' compliance with the provisions of the secondary legislation and of the directly applicable European legislation;
- to impose sanctions in case of findings infractions and contraventions;
- to request, from the economic operators in its sphere of activity, all information and documents necessary to fulfil its legal duties, including their accounting records, justifications for denying access to the network to third parties, as well as any information concerning the necessary measures for network enhancements or related to the settlement of complaints.

In fulfilling its tasks, ANRE is working together with the Competition Council, the National Authority for Consumer Protection, ministries and other public local and central administrative bodies, electricity and natural gas consumer associations, specialized economic operators providing services in the sector, the professional associations and the employer and trade union associations in the energy field, and regulatory authorities from other states. In accordance with the current legislation, ANRE is obliged to notify the Competition Council with regard to the abuse of a dominant market position and the infringement of legal provisions concerning competition, whenever non-compliance with regulations regarding competition and transparency is being found.

ANRE lays down, in compliance with the current legal provisions, the administrative-judicial settlement procedure of pre-contractual disputes within the electricity sector and settles disputes related to the conclusion of contracts between economic operators within the electricity and heat sector, of electricity and heat supply contracts, of network connection contracts, of sale-and-purchase agreements for heat produced in co-generation, as well as disputes arising from the conclusion of addendums where provisions resulting from subsequent legislative amendments are being stated. It also mediates pre-contractual disputes in the natural gas sector, according to its own procedures. Under the law, ANRE also settles, through administrative and legal means, the complaints against the transmission system operator and the distribution operators regarding the obligations they have according to the provisions of the law.

Following the approval of Law 123/2012, the competencies and tasks of ANRE with regard to disputes resolution have been completed. Thus, the Commission on Dispute Resolution is established, as a body for settling disputes arising among electricity market participants on the wholesale and retail market. The Commission consists of 5 members from the ANRE specialists having a length of service of at least 8 years in the electricity sector and operates under a regulation on organization and functioning, approved by decision of the ANRE President after public consultation. The 5 members are appointed for a period of 3 years by decision of the ANRE President.

By taking on the provisions of art. **35, 36 and 37** of Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, published in the Official Journal of the European Union (OJ) no. L 211 of 14 August 2009, and the provisions of art. **39, 40 and 41** of Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, published in the Official Journal of the European Union (OJ) no. L211 of 14 August 2009, ANRE will resume to its status of independence and autonomy, as follows:

1. ANRE will be organized and will operate as administrative autonomous authority, with legal personality and own patrimony, presenting annual reports to the Parliament, Government, and President of Romania, the Agency for the Cooperation of Energy Regulators – ACER and the European Commission, regarding the fulfilment of its tasks and competencies provided by law,
2. Financing of current and capital expenditures will be ensured entirely from own incomes,
3. ANRE will be headed by one president and two vice presidents, and for the approval of regulations a regulatory committee made up of the President, two Vice-Presidents and 4 other regulators will be constituted; the members of the regulatory committee will be appointed by the Parliament of Romania, and their mandates can be renewed once.

The tasks and competencies will be also completed with regard to:

- compliance with and implementation of relevant, legally binding decisions of the Agency for the Cooperation of Energy Regulators – ACER and the European Commission;
- dispute settlement between the transmission system operator and the owner of the transmission grid, based on an own procedure;
- the procedure for conducting investigations.

3.2. Promoting competition

3.2.1. Wholesale electricity market

The current structure of the electricity generation sector reflects the successive reorganizations put in place during 2000 – 2004, which resulted in a reduced concentration on the wholesale market. In 2011, the series of investments started in the previous years in new renewable electricity generation capacities continued, particularly wind. The **net maximum generation capacity from renewable energy sources** at the end of 2011 (other than hydropower) was of 1031 MW and included wind power plants (1006 MW, double as compared to the previous year and by 50% more than predicted), biomass power plants (24 MW) and photovoltaic power plants (0.869 MW).

In 2011, the **total net electricity generation** NPS level, aggregate with all energy resources was of approx. **56968 GWh**, while the **energy delivered to the grid by dispatchable energy producers** reached **55642 GWh**.

Among the primary sources for electricity generation in 2011, classical energy sources prevailed, 50% being provided from solid, liquid and gaseous fuel. In order to meet the electricity demand, nuclear sources contributed with approx. 18%, whereas E-RES had a share of 28% (hydro), 2% (wind) and 1% (biomass) of the structure of energy delivered to the networks by dispatchable and non-dispatchable energy producers.

2011 was marked by a major drought that started in the very first months of the year. Romania faced a severe water shortage affecting the inner rivers and the Danube with serious consequences in reducing the water reserves of the main reservoirs (the lowest reserves of the last 5 years during May-June and November-December) and in the level of electricity production from hydroelectric sources, implicitly. The most important electricity producer from hydroelectric sources, Hidroelectrica, activated the force majeure clause for the commercial contracts in progress for the sale of electricity, thus being able to lower energy supplies in proportion to the production decrease caused by the severe drought. Its total energy production in 2011 (generated in the hydroelectric power plants Iron Gates I and II) was by 25% below the level of 2010. However, in terms of electricity, Hidroelectrica produced the largest amount of energy of 14.7 TWh in 2011, followed by producer Nuclearelectrica, with an amount of 11.7 TWh. The top is completed by the thermal producers, in number of 8, having produced together an annual amount of 28.8 TWh. It is specified that only producers with dispatchable units were considered (which are subject to market monitoring by the regulator, in terms their activity on the wholesale market).

The wholesale market includes all electricity sale-and-purchase transactions conducted between participants, except the ones for electricity to final consumers.

Figure 3.9 presents the monthly evolution of volumes traded on the main wholesale electricity market components during 2006-2011 as compared to internal consumption.

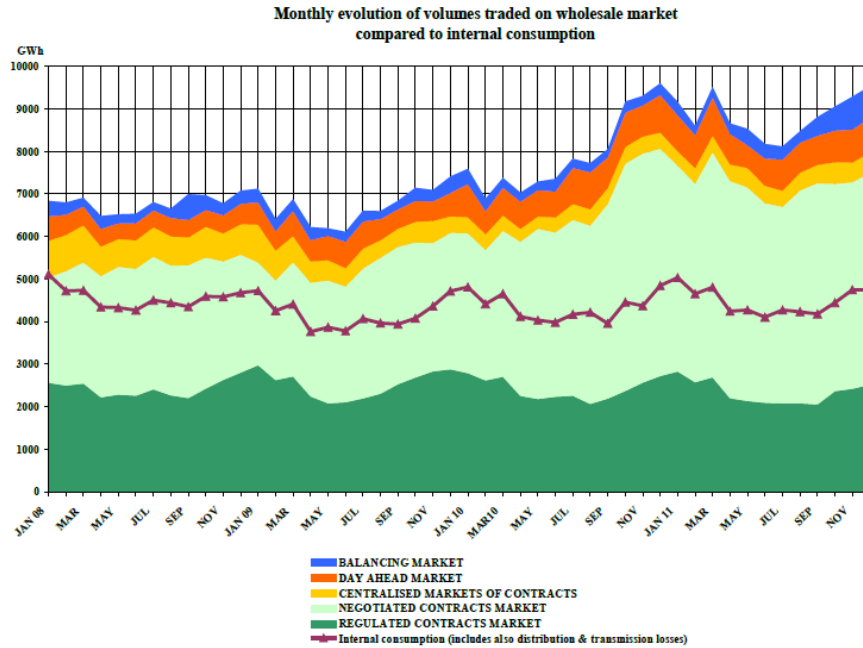


Figure 3.9

Table 3.1 shows the wholesale electricity market components in 2011 and the dynamics of the electricity volumes traded for each one of these components, compared to 2010.

Table no. 3.1

| Wholesale market components | Traded volumes in 2010 (GWh) | Evolution compared to 2010 (%) |
|---|------------------------------------|--------------------------------------|
| Negotiated bilateral contracts market | 59147 | ▲ 17.8 |
| Export | 2942 | ▼ 23.7 |
| Regulated bilateral contracts market | 28021 | ▼ 3.2 |
| Centralized market for bilateral contracts (CMBC+CMBC-CT) | 5031 | ▲ 14.7 |
| Day-ahead market (DAM) | 8870 | ▲ 2.0 |
| Intra-day market (PI) | 4,5 | N/A |
| Balancing market (BM) | 4837 | ▲ 63.1 |

As in previous years, in 2011 the **trading on negotiated bilateral contracts** (concluded by bilateral negotiations or by brokerage platforms) **and regulated bilateral contracts** (with amounts and prices approved by the regulatory authority) prevailed on the wholesale market. Their volume represented, as a whole, approx. 162% of the internal national consumption, increasing as compared to 2010.

Since internal consumption increased by 3%, the quantities successively circulated between electricity suppliers on the wholesale market on negotiated contracts increased by 26% compared to 2010. This was possible due to some sufficient margins allowed by some of the original purchase prices. If in 2010 the volumes purchased and resold by electricity suppliers accounted for 65% of the internal consumption, in 2011 they represented approx. 80%. Given the fact that these are directly concluded contracts, outside the centralized markets, the above mentioned evolution is a reason of concern regarding the level of transparency and efficiency on the electricity market and in terms of how it is reflected in the price charged to the final consumer.

Due to the competitive and transparent centrally organized markets, the increase of the volumes traded on day-ahead markets (albeit by a small percentage), on the centralized bilateral contracts market (a significant increase) and the volumes traded (although minor) on

the newly emerging intra-day market are considered positive developments on these segments of the wholesale market.

The interest for transactions carried out in a transparent manner is also demonstrated by the increase by 20% compared to 2010 of the number of participants enrolled in the day-ahead markets. At least 97 of them sent at least an offer, accounting for a rate of interest of 80% of the total enrolled participants. The hourly transactions on this market varied between 370-1696 MWh/h, with the maximum value accounting for an absolute maximum for the period 2005-2011. **With a total volume of 8870 GWh in 2010, the DAM transactions represented about 15.6% of the internal consumption** (calculated as the difference between the energy delivered to the networks and the balance between exports and imports).

48 out of the 93 participants on **CMBC** (centralized market for bilateral contracts) expressed their interest in using the products offered by this market. Following the opening of a number of 260 offers, **the amount traded in 2011 to be delivered in 2011 and 2012 was of a total of 5.6 TWh**, of which deliveries for 2012 amounted to 4.5 TWh. Transactions with short and medium-term deliveries (by the trading with continuous negotiation – **CMBC-CT**) intensified, leading to 2798 standard contracts with delivery deadlines of a week, a month, a quarter, which sum a value of **0.456 TWh**.

Starting 25 July 2011 the short-term product portfolio has been improved by the appearance of the **intra-day electricity market (PI)**, which will be developed in stages, based on an action plan approved by ANRE. The action plan foresees the development of the intra-day market in four implementation stages, the first of which became functional with the approval of ANRE Order 32/2011.

By introducing this new trading mechanism on the electricity market the participants are allowed to balance their portfolio closer to the time of delivery. This will contribute to reducing imbalances, although, for the beginning, the implementation of the mechanism is being made in a simplified version, consisting of a single trading session opened immediately after the closing of the trading session in the DAM.

The regulated component of the wholesale market also operated in 2011, to supply at regulated tariffs household and non-household consumers who did not use the right to choose their electricity supplier, as well as for covering the transmission and distribution network losses (including the mutual aid contracts at regulated prices concluded between producers). Of all trading on the regulated market, producers using fossil fuel covered about 54% (approx. 12% for network losses in the distribution networks and approx. 3% for network losses in the transmission network), the nuclear producer about 24% (approx. 5% for distribution network losses), and the hydro producer about 14% (2% for distribution network losses). The 8% difference was represented by the contracts with regulated prices for mutual-aid between producers (regardless of the fuel).

In 2011 the **exported amount** was above the imported, despite the difficult situation in which the energy system was found because of prolonged droughts and hydrological difficulties. Thus, as reported by the market participants, **the total exported amount was of 2.9 TWh and the imported amount was of 1 TWh** (the values do not include transits and are expressed in RO hours). As reported by the TSO, the total physical flows on the import lines (CET hours) were of 2.9 TWh and the ones on the export lines of 4.8 TWh.

The **balancing market** is a mandatory component of the wholesale market through which a balance is set between the energy demand and production, on commercial grounds and in real time.

At the end of 2011, 19 producers were operating on the balancing market with a total of 137 dispatchable units and 126 BRP were active.

The total volume traded on the balancing market increased by 63.1% compared to 2010 and the monthly values were constantly under the ones traded on DAM. *Figure 3.10* shows the relationship between these two markets from the beginning of the current market model.

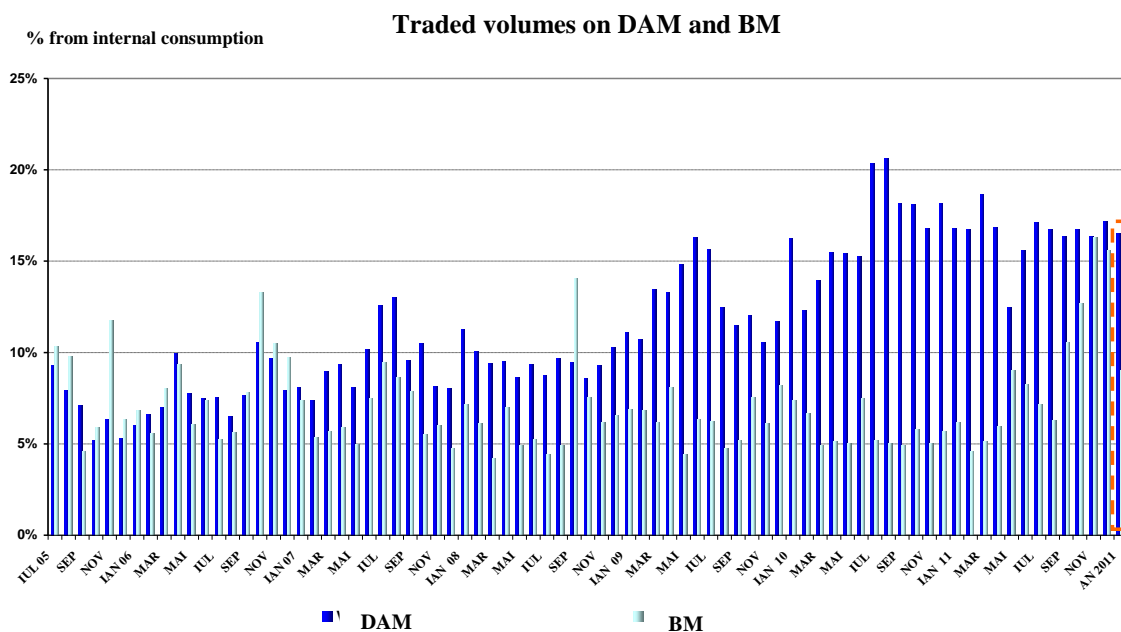


Figure 3.10

The **ancillary services market**, a mixed market with a regulated and a competitive component operates for securing the secondary, fast tertiary and slow tertiary reserves. As there is a constant high concentration on the ancillary services market (the hydro producer is able to achieve most of them, at higher quality), the securing of ancillary services is being done mainly through regulated contracts concluded between producers and the TSO (CN Transelectrica SA), the rest being provided through contracts on the competitive market, following auctions provided by the TSO.

While the necessary secondary reserve was completely covered through regulated contracts in 2011, in order to cover at the largest extent the necessary tertiary reserves, in addition to the regulated contracts with amounts approved by ANRE, auctions were organized. The quantities obtained by auction accounted for approx. 15% of those destined to the tertiary reserve (fast and slow).

The regulated purchase tariffs for ancillary services in 2011 stayed at the level of 2009, staying the same for all qualified suppliers of ancillary services. Prices resulting for auctions organized for the fast tertiary reserve were above the regulated ones, while the situation for the slow tertiary reserves reversed. During the year, some contractual concessions regarding fast and slow tertiary reserves occurred between the respective suppliers of ancillary services, in order to meet the contracted quantities.

The average tariff for electricity transmission was not modified in 2011, staying at the level of 18.77 lei/MWh, the only modified tariff being for the system service (starting 1 April 2011), from 20.75 lei/MWh to 10.21 lei/MWh, as a result of the emergence of the support scheme for

promoting co-generation based on the demand for useful heat. The specific tariffs for electricity distribution charged by the main operators did not change in 2011.

Following the continuous efforts of ANRE regarding the need of complete reporting to the relevant authority of all data on the production and trading requested based on the *Methodology for monitoring the wholesale market*, starting January 2011, all wholesale market participants (producers, suppliers, network operators) monitored by ANRE complied with the provision of the secondary legislation in the field. In this way, the aggregate data published by ANRE and the internal analyzes on average prices by contract and participant categories gave a true image of the wholesale market prices at a certain point, thus the distortions caused by the absence of some of them at a certain point were eliminated.

Following specifications are being made:

- the average prices do not include VAT, excises or other taxes and were determined by the weighting of prices with the amounts corresponding to the sales transactions monthly reported by market participants;
- all prices include the TG component of the transportation fee (for centralized markets it is embedded in the price, by the tenderers).

The comparative analysis of the annual average prices resulting from transactions on components of the wholesale market in 2011 compared to 2010 indicates **an increase in average annual prices on all types of contracts, except for regulated contracts which had a slight decrease in the average annual price, the decrease being insignificant**. The price evolution on the wholesale market in 2011 was marked by the very large increase in the average DAM price compared to 2010, with a average monthly maximum of 273 lei/MWh in November 2011.

The comparative analysis of the annual average prices for transactions on components of the wholesale market in 2011 compared to 2010 indicates the following:

- an increase in the average annual prices on all types of contracts, with the exception of regulated contracts, where the average annual price decreased slightly;
- a very high increase of the average price on DAM compared to 2010, with an average monthly maximum of 273 lei/MWh in November 2011;
- the average price on directly negotiated contracts (with prices varying between 138 and 410 lei/MWh) exceeded by 3.5% the one on CMBC (with transactions concluded at prices ranging from 143 to 252 lei/MWh);
- the export price headed towards 200 lei/MWh, especially because of the high prices practice by the electricity suppliers.

The average purchase price for electricity purchased by default suppliers on the wholesale market (regulated and competitive) to meet the demands of consumers receiving electricity on the regulated market was of 159.69 lei/MWh, whereas the price for the distribution operators was 174.40 lei/MWh.

| Average prices on the wholesale market components | 2011 - lei/MWh - | 2010 - lei/MWh - | Evolution in 2011 compared to 2010 (%) |
|---|---------------------|---------------------|--|
| Negotiated bilateral contracts market | 177.88 | 158.89 | ▲ 12.0 |
| Export | 192.78 | 170.90 | ▲ 12.8 |
| Regulated bilateral contracts market | 164.29 | 166.35 | ▼ 1.2 |
| Centralized bilateral contracts market | 171.78 | 157.01 | ▲ 9.4 |
| Day-ahead market* | 221.20 | 153.39 | ▲ 44.2 |
| Intra-day market** | 281.71 | - | - |
| Balancing market | 283.13 | 232.20 | ▲ 22.0 |

* the annual average price published by SC Opcom SA and calculated as simple arithmetic mean

** the annual average price calculated based on the annual traded value and the total traded volume, published by SC Opcom SA

The average electricity trading prices by producers on the competitive market (that were brought to comparable values by only including the TG component of the transmission tariff) were **147.22 lei/MWh** for sales negotiated at the competitive suppliers, **135.98 lei/MWh** for export and **205.2 lei/MWh** for other producers.

For deliveries on contracts concluded on the **centralized contracts market** by producers resulted average prices of approx. **171.28 lei/MWh** for sales to competitive suppliers and approx. **170.73 lei/MWh** for sales to other producers.

The average selling price of producers on the DAM was of approx. **225 lei/MWh**, while on **export** contracts it was of only **135.98 lei/MWh**. Due to extremely severe hydrological conditions, thermal producers obtained high incomes from sales on DAM, with the average price for producers in 2011 being by 44% higher compared to the previous year.

The average selling prices for suppliers on the competitive market in 2011 (including the TG component of the transmission tariff) were **185.93 lei/MWh** for sales negotiated with other suppliers, **214.64 lei/MWh** on export, **193.25 lei/MWh** on contracts negotiated by producers and **257.11 lei/MWh** to final consumers, with the specification that this last price includes all network costs (transmission, distribution, ancillary services).

The average weighted price of deliveries in 2011 on the centralized bilateral contracts market (on both trading possibilities, CMBC and CMBC-CT) was **171.78 lei/MWh**, having increased by approx. 9% compared to the similar average in 2010 and by approx. 22% below the annual DAM price in 2011.

For electricity traded in 2011 on CMBC, according to the data submitted by the operator of this market, the average price for baseload delivery contracts was 218.94 lei/MWh (51.01 EUR/MWh), whereas for peakload delivery contracts it was 210.04 lei/MWh (50.16 EUR/MWh). As far as trading through continuous negotiation is concerned, CMBC-CT, the average weighted price in 2011 for baseload delivery contracts was 225.88 lei/MWh (52.93 EUR/MWh).

In 2011, the average closing price for DAM increased by approx. 44% compared to the 2010 average. *Figure 3.11* shows the monthly evolution of the average price and of the volume traded on DAM between 2006 and 2011.

Monthly evolution of the traded volume and average prices on DAM

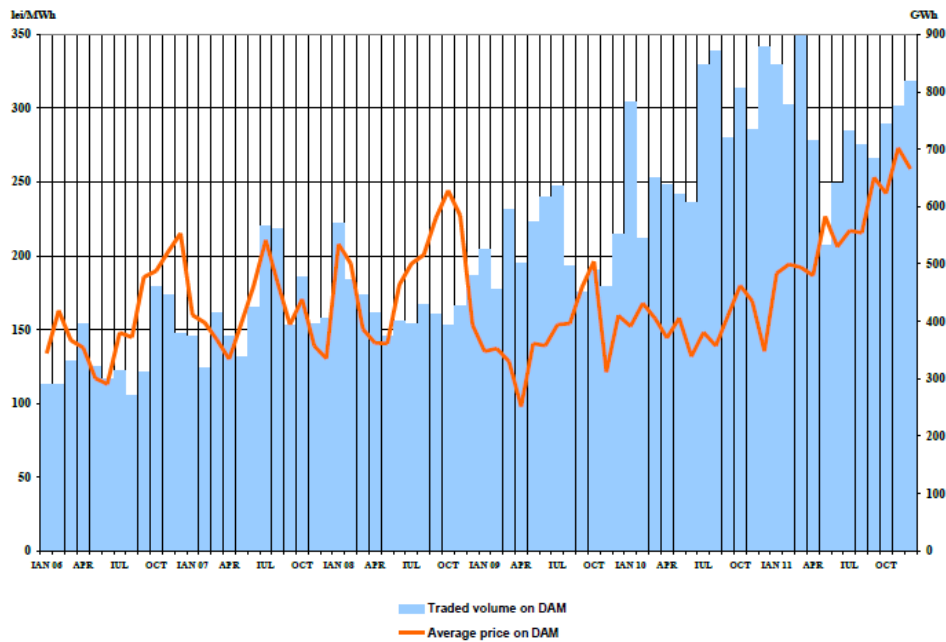


Figure 3.11

Variations from month to month of the monthly average price set on DAM existed in both directions, but with an upward trend and higher values than the monthly values in 2010. The minimum of this period was reached in April 2011 (approx. 186.55 lei/MWh), whereas the maximum, in November (approx. 273 lei/MWh).

It is estimated that, this year as well, the DAM price incorporates with sufficient accuracy the available information regarding the level of resources and the electricity demand, presenting the specific high volatility at the same time.

According to the data reported by the market operator, the annual average DAM price (calculated as the simple arithmetical mean of the baseload prices all time frames) was **221.20 lei/MWh (52.13 EUR/MWh)** for baseload energy, whereas the average peakload price in 2011 was 244.28 lei/MWh (57.52 EUR/MWh).

After comparing the closing price on the OPCOM-organized DAM with the spot prices on other European power exchanges in 2011, it can be noticed that the prices recorded by OPCOM were below the EXAA prices in the first half of the year, and significantly higher in the second half.

In 2011, on **the balancing market (BM)** there were average settlement price levels of 283.13 lei/MWh (average deficit price – by 22% above the level of 2010), and 58 lei/MWh (average surplus price – by 47% above 2010) respectively. *Figure 3.12* presents the comparative evolution of average monthly prices on the BM and DAM, beginning with the current wholesale market organization until the end of 2011.

Monthly average prices on DAM and BM
July 2005 - December 2011

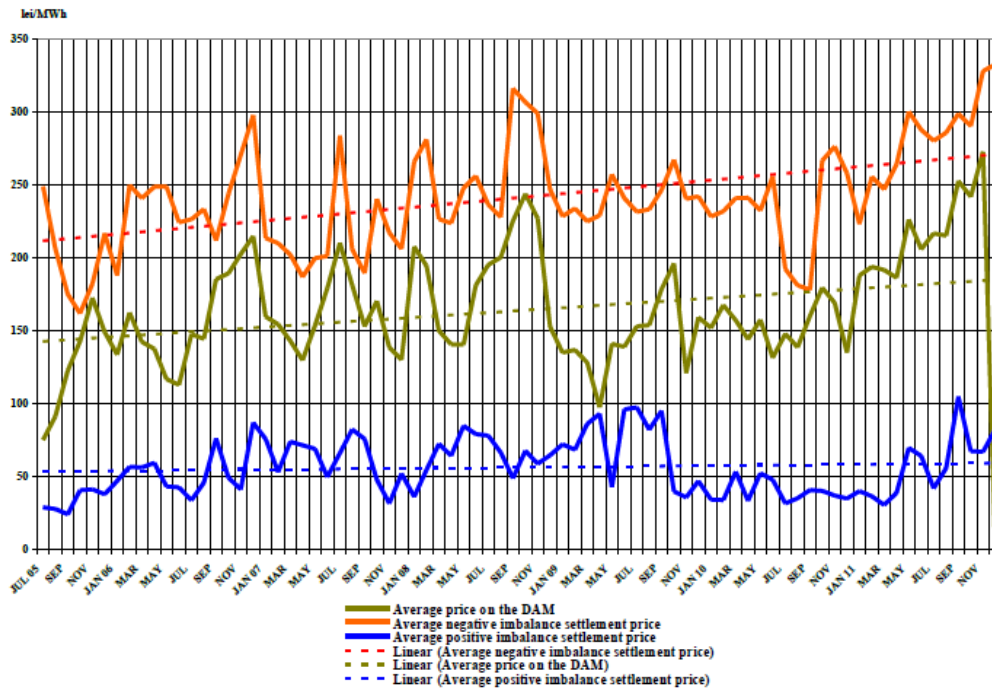


Figure 3.12

The evolution of the electricity level monthly employed by the TSO for the management of internal congestions, as well as its countervalue, between July 2005 and December 2011, are presented in figure 3.13.

Monthly evolution of the volume and value of the electricity delivered for the congestion management

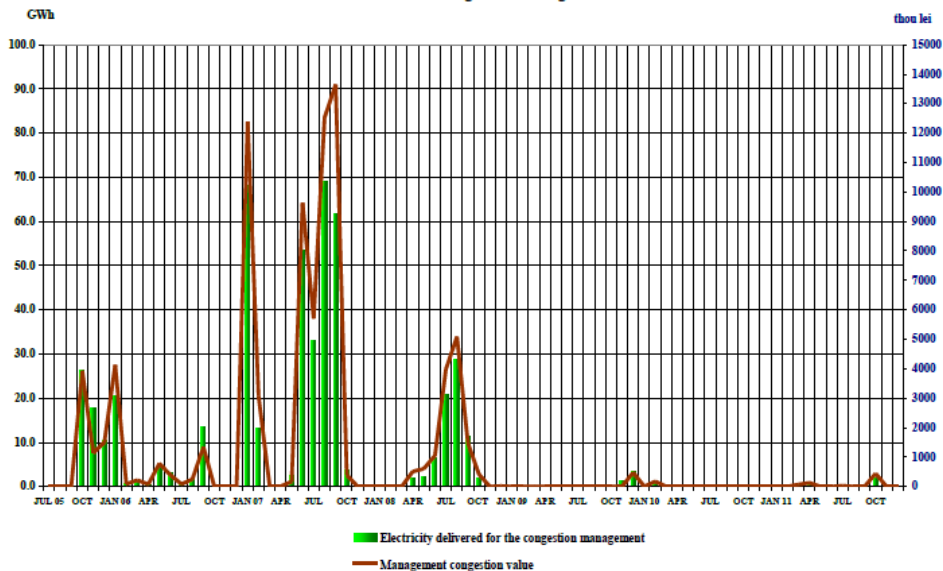


Figure 3.13

During 2011 there were many situations in which congestions on internal lines were recorded. Thus, in March, April and July 2011, for several dispatchable time intervals, in the area of Bucharest, restrictions were produced in the distribution network, at the withdrawal from operation of a 110kV line, correlated with low notified production.

In October two events occurred in the transmission network in the northern area of the country, at the withdrawal of a 400kV line in the Roşiori-Mukacevo area and of another 400 kV line in the Braşov-Gutinaş area.

ANRE published on its own website monthly reports on the results of monitoring the wholesale market and its components. These contain general information regarding the functioning rules of the wholesale market, aggregate data on the functioning of the NPS and of the different market components, providing the starting point possible specific stakeholder analyzes and assessment of the competition level. In carrying out these reports, ANRE takes into account the generally accepted principles at EU level regarding data publishing and respecting the required balance in order to avoid collusions.

In addition to publishing aggregate information and data, an essential part of the monitoring is to carry out regular analyzes comprised in the internal reports of the regulatory authority, or by directly informing the authority's management regarding the wholesale market functioning efficiency, the regulatory framework efficiency, the behaviour of market participants, as well as reporting infringements found.

According to Energy and Natural Gas Law 123/2012, ANRE is allowed to publish relevant data such as duration, rules concerning delivery and disconnection, quantity, execution terms, transaction prices, means for identifying the wholesale customer, regarding all transactions within electricity supply contracts and electricity derivatives concluded with wholesale customers and TSOs.

This data shall be kept by the suppliers for at least five years and shall be made available to ANRE, the European Commission and other competent national authorities, at their request.

Evolution of the concentration indicators on the wholesale electricity market

Generation

Based on collected data and on the data provided by the TSO it was possible to make assessments regarding concentration indicators in the Romanian electricity generation market, both in terms of **power available in the system**, and **energy produced and delivered to the transmission networks**.

In 2011, the **net power available** in the NPS was of **17375 MW**, compared to 17054 MW in 2010. The increase was mainly due to the commissioning of wind power capacities.

The **value of the HHI indicator**, calculated according to the **net available power** was 1929 in 2001. The HHI calculation took into account the shares of over 50% held by some operators in other operators' ownership: the outright ownership by producer SC Termoelectrica SA of producers SC Electrocentrale Bucureşti SA, SC Electrocentrale Deva and SC Electrocentrale Galaţi SA (principle of dominance).

The producers who had, as net available power, more than 5% of the total power were 4, and the cumulative share of the top 3 largest producers was 65.76% (values calculated using the principle of dominance).

When considering the same principle, the number of producers delivering more than 5% of the annual net electricity production was 6, and the aggregate market shares of the top 3 largest producers were 58.50%, this value being below the one in 2010 by 6.7%.

Table 3.2 shows the annual average values of the structure indicators C1 and HHI, determined based on the energy delivered to the networks by producers holding dispatchable units, during 2004-2011, without applying the principle of dominance (based on the legal structure). Because most electricity producers are owned by the government or by local authorities (through the Ministry of Economy, the Authority for State Assets Recovery – AVAS, and Local Councils), the monitoring of concentration indicators is being currently made based on the legal structure of the sector (as legal entities), considered sufficiently relevant on the Romanian market.

Table 3.2 Evolution of average annual values of C1 and HHI based on electricity delivered to the networks by dispatchable producers.

| Year | C1 | HHI |
|------|-----|------|
| 2004 | 32% | 1573 |
| 2005 | 37% | 1831 |
| 2006 | 31% | 1562 |
| 2007 | 28% | 1404 |
| 2008 | 28% | 1523 |
| 2009 | 29% | 1632 |
| 2010 | 36% | 1947 |
| 2011 | 26% | 1469 |

In figure 3.14 is presented graphically the monthly evolution of HHI upon production, calculated based on the electricity delivered to the network.

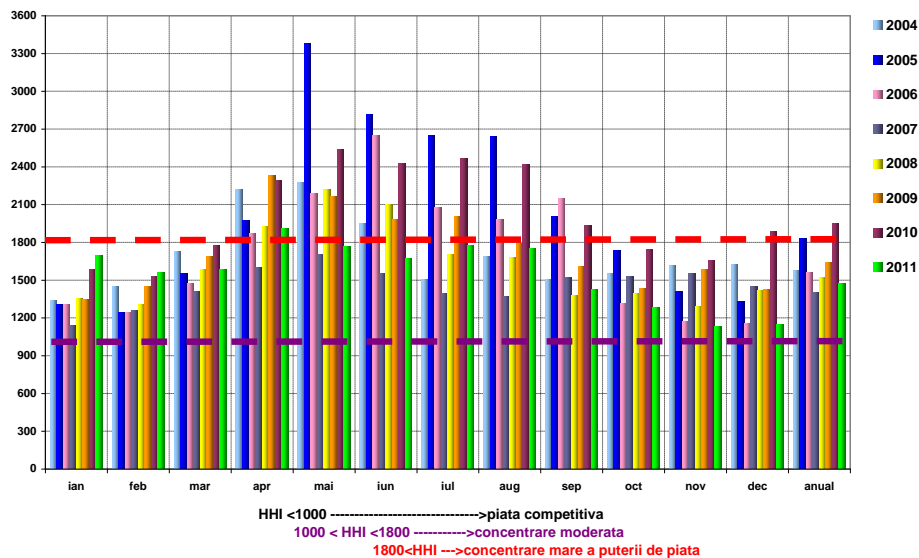


Figure 3.14

It can be noticed that the 2011 HHI value, determined according to the electricity annually delivered to the market was 1469, value that is under the threshold of 1800 and which delimits markets with moderate concentration of power from the ones with excessive concentration. Also, the market share of the leading producer, Hidroelectrica, significantly decreased compared to last year.

Unlike in previous years, in 2011 the values of concentration indicators were situated within the spectrum corresponding to the moderately concentrated towards not concentrated market and, during the latest months of the year, the lowest values in the entire

analyzed period were recorded. This was because of the prolonged drought in the spring and summer of 2011 which led to the extremely unfavourable hydrological situation and to the onset of force majeure for producer Hidroelectrica. If during the first eight months of the year, the hydro producer maintained its supremacy in electricity production, starting with September 2011 until the end of the year the situation reversed between Hidroelectrica and Nuclearelectrica (the nuclear power producer ranked second in terms of monthly market share). However, for the entire year, Hidroelectrica remains the leading producer with an annual market share of 26%, followed by Nuclearelectrica with 19%, and thermal producer CE Turceni with 13%. **Compared to most of European electricity markets, the presented values show that, on the Romanian market (upon production) there is a medium level of concentration (obviously, without taking into account that most production capacities are being held, directly or indirectly, by the same owner – the Romanian government).**

Day-ahead market

The HHI concentration indicator calculated for sale and purchase transactions had values that generally indicate a lack of concentration at purchasing (monthly values between 587 and 835), with one exception in September 2011, when the indicator reached 1108; at selling, a market concentration lower than in 2010 is noticed, with monthly values between 570 and 1141 and a maximum of 1279 in July 2011.

In *Table 3.3* the DAM concentration indicators are shown, calculated on the whole year based on the traded volumes during 2006-2011.

Table 3.3

| Year | Sale | | | Purchase | | |
|------|------|--------|--------|----------|--------|--------|
| | HHI | C3 [%] | C1 [%] | HHI | C3 [%] | C1 [%] |
| 2006 | 562 | 30.54 | 17.49 | 902 | 42.92 | 22.78 |
| 2007 | 448 | 26.61 | 11.64 | 497 | 28.86 | 10.84 |
| 2008 | 573 | 32.28 | 16.70 | 592 | 32.33 | 14.00 |
| 2009 | 558 | 29.08 | 14.22 | 612 | 34.88 | 14.18 |
| 2010 | 838 | 42.41 | 16.23 | 461 | 25.45 | 11.02 |
| 2011 | 789 | 43.32 | 16.84 | 538 | 28.58 | 14.71 |

Source: SC OPCOM SA data

The same indicators, calculated based on the annual offers, registered the values presented in *Table 3.4*:

Table 3.4

| Year | Sale | | | Purchase | | |
|------|------|--------|--------|----------|--------|--------|
| | HHI | C3 [%] | C1 [%] | HHI | C3 [%] | C1 [%] |
| 2006 | 620 | 37.19 | 14.43 | 1601 | 56.22 | 35.43 |
| 2007 | 563 | 31.36 | 12.75 | 930 | 42.04 | 24.99 |
| 2008 | 756 | 72.80 | 17.28 | 711 | 37.14 | 15.58 |
| 2009 | 764 | 41.42 | 16.33 | 673 | 36.44 | 14.80 |
| 2010 | 1097 | 52.89 | 19.20 | 433 | 23.39 | 10.09 |
| 2011 | 821 | 44.52 | 17.54 | 438 | 24.66 | 11.07 |

Source: SC OPCOM SA data

The monthly HHI evolutions upon sale and purchase for 2011, compared to the average monthly DAM closing price (for the purpose of highlighting potential correlations between them), are presented in *figures 3.15* and *3.16* (the indexes are calculated according to traded volumes).

HHI -Sale

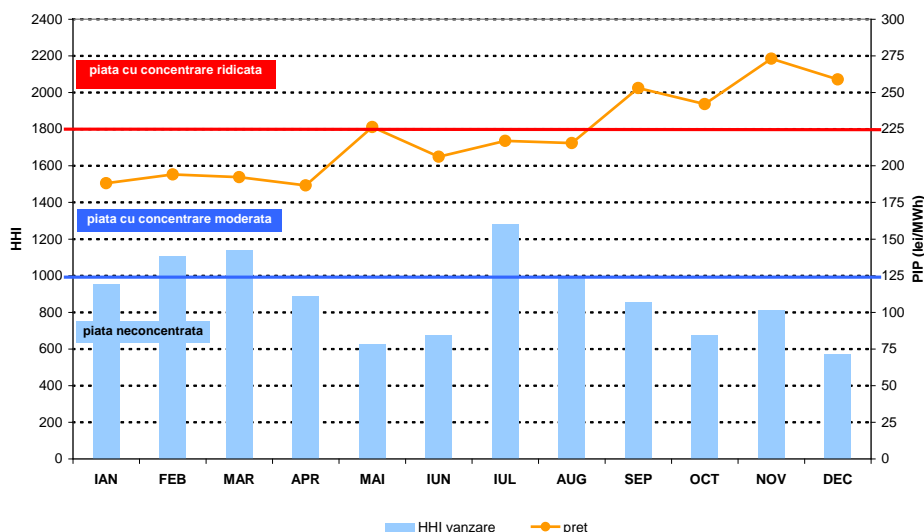


Figure 3.15

Source: SC OPCOM SA data; interpretation by ANRE

HHI - Purchase

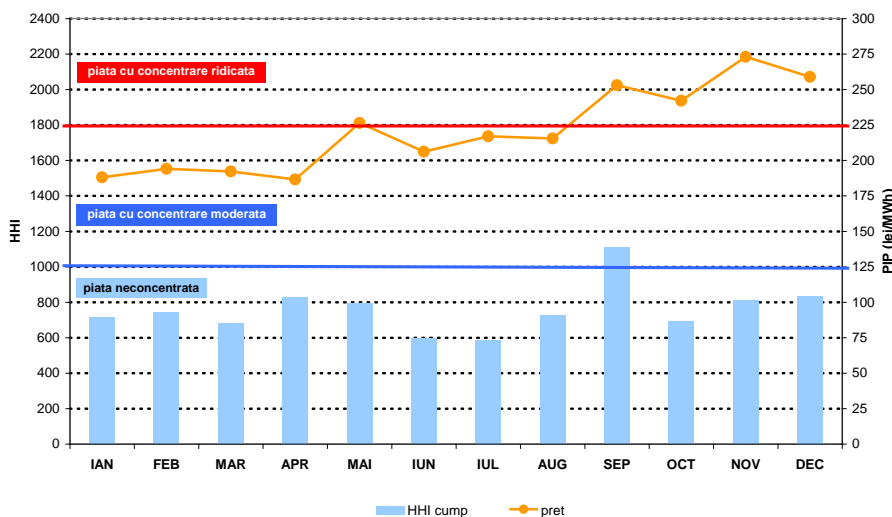


Figure 3.16

Source: SC OPCOM SA data; interpretation by ANRE

Centralised market for bilateral contracts

Concentration indicators calculated both upon offers launched in 2010 and on energy amounts corresponding to contracts concluded in 2011 highlight an excessively concentrated market for both types of trading on the centralized market of contracts, CMBC and CMBC-CT, with a maximum on the sales part on CMBC-CT, where there was one producer that introduced most sale offers and traded overwhelmingly.

The next tables show the concentration indicators on CMBC and CMBC-CT during 2006-2011.

Table 3.5 – Concentration indicators on CMBC, based on the energy amounts in the annually concluded transactions

| Year | Sale | | | Purchase | | |
|------|------|--------|--------|----------|--------|--------|
| | HHI | C3 [%] | C1 [%] | HHI | C3 [%] | C1 [%] |
| 2005 | 4204 | 99.68 | 57.61 | 3449 | 93.33 | 43.21 |
| 2006 | 2657 | 82.77 | 38.30 | 1085 | 46.58 | 16.15 |
| 2007 | 2669 | 87.55 | 35.21 | 635 | 32.52 | 11.27 |
| 2008 | 3142 | 95.32 | 36.51 | 551 | 25.00 | 9.85 |
| 2009 | 4049 | 98.28 | 51.34 | 1929 | 66.58 | 35.93 |
| 2010 | 4048 | 98.80 | 45.22 | 2660 | 76.87 | 45.22 |
| 2011 | 2786 | 83.47 | 41.79 | 979 | 45.77 | 17.73 |

Source: SC OPCOM SA data and interpretation

The data presented above include the amounts traded on CMBC in 2011 upon sale/purchase, based on the offers initiated by sale/purchase or by the answers to initial sale/purchase offers.

Table 3.6 – Concentration indicators on CMBC, based on yearly offered energy amounts

| Year | Sale | | | Purchase | | |
|------|------|--------|--------|----------|--------|--------|
| | HHI | C3 [%] | C1 [%] | HHI | C3 [%] | C1 [%] |
| 2005 | 4204 | 99.68 | 57.61 | 0 | 0 | 0 |
| 2006 | 3664 | 92.61 | 46.81 | 964 | 44.75 | 16.94 |
| 2007 | 2557 | 86.06 | 34.17 | 1712 | 66.88 | 28.89 |
| 2008 | 3027 | 89.14 | 37.46 | 1523 | 59.01 | 26.43 |
| 2009 | 2250 | 77.91 | 30.96 | 2495 | 75.22 | 37.98 |
| 2010 | 3194 | 83.86 | 49.31 | 3677 | 93.67 | 42.27 |
| 2011 | 2500 | 78.81 | 33.57 | 1443 | 53.34 | 20.85 |

Source: SC OPCOM SA data and interpretation

The data presented above include offered amounts on CMBC in 2011, upon sale/purchase, that were either traded or cancelled.

Table 3.7 – Concentration indicators on CMBC-CT, based on energy amounts from yearly concluded transactions

| Year | Sale | | | Purchase | | |
|------|-------|--------|--------|----------|--------|--------|
| | HHI | C3 [%] | C1 [%] | HHI | C3 [%] | C1 [%] |
| 2007 | 6155 | 100 | 25.97 | 6086 | 100 | 26.69 |
| 2008 | 10000 | 100 | 100 | 3239 | 60.07 | 9.24 |
| 2009 | 5377 | 100 | 63.72 | 1731 | 61.13 | 29.95 |
| 2010 | 7806 | 100 | 87.93 | 3312 | 93.10 | 46.55 |
| 2011 | 9316 | 100 | 96.49 | 1568 | 57.10 | 27.94 |

Source: SC OPCOM SA data and interpretation

The data presented above include amounts traded on CMBC-CT in 2011 upon sale/purchase, based on initiated sale offers or as a response to these offers.

Table 3.8 – Concentration indicators on CMBC-CT, based on annually offered energy amounts

| Year | Sale | | | Purchase | | |
|------|------|--------|--------|----------|--------|--------|
| | HHI | C3 [%] | C1 [%] | HHI | C3 [%] | C1 [%] |
| 2007 | 2759 | 68.30 | 41.38 | N/A | | |
| 2008 | 5784 | 95.06 | 6.92 | | | |
| 2009 | 4299 | 94.64 | 60.75 | | | |
| 2010 | 4198 | 96.40 | 55.20 | | | |
| 2011 | 9789 | 100 | 98.93 | | | |

Source: SC OPCOM SA data and interpretation

The data presented above include the offered amounts on CMBC-CT in 2011 upon sale/purchase, amounts that were fully or partially traded, or were cancelled. As a novelty, in 2011 one of the changes introduced by the new organized framework for trading of electricity bilateral contracts was the possibility of initiating purchase offers on CMBC-CT.

Balancing market

Table 3.9 presents comparative values of the concentration indicators for the period 2006-2011 determined on the actual energy delivered by producers on BM for each type of regulation and direction.

Table 3.9- BM concentration index values

| Year | Regulation type | Direction | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--------|-----------------|-----------|------|------|------|------|------|------|
| C1 (%) | Secondary | upward | 80 | 60 | 71 | 64 | 68 | 59 |
| | | downward | 80 | 56 | 71 | 64 | 67 | 56 |
| | Fast tertiary | upward | 69 | 51 | 70 | 55 | 53 | 75 |
| | | downward | 53 | 30 | 38 | 47 | 62 | 46 |
| | Slow tertiary | upward | 29 | 29 | 27 | 39 | 45 | 30 |
| | | downward | 31 | 19 | 27 | 32 | 34 | 42 |
| HHI | Secondary | upward | 6510 | 3915 | 5438 | 4526 | 5067 | 3986 |
| | | downward | 6612 | 3538 | 5367 | 4501 | 4943 | 3703 |
| | Fast tertiary | upward | 5061 | 2979 | 5065 | 3543 | 3320 | 5729 |
| | | downward | 3452 | 1590 | 2319 | 2843 | 4204 | 2868 |
| | Slow tertiary | upward | 2203 | 1769 | 2021 | 2478 | 2749 | 1679 |
| | | downward | 2582 | 1276 | 1838 | 2017 | 2089 | 2563 |

BM concentration index values for 2011 show the existence of a dominant participant and an excessive BM concentration for all the components, except the tertiary upward regulation where a moderate concentration market was recorded. Given the high concentration level recorded constantly on BM, ANRE maintained in 2011 the upper limit of the tender prices in this market with a proposed revision of the maximum value of 400 ROL/MWh.

Market for ancillary services

The ancillary services market operates on types of reserves: secondary, fast tertiary and slow tertiary reserve acquired by the TSO through regulated or competitive contracts (based on bidding) from producers that are qualified to provide such services. As there is a high concentration on the ancillary services market (due to the hydro producer who is able to ensure a great part of the highest quality reserves), the ancillary services are provided mainly through regulated contracts concluded between producers and the TSO.

In 2011, TSO contracted through bidding about 6% of the total quantity contracted for the fast tertiary reserve and 21% from the ones for the slow tertiary reserve while the entire quantity for the secondary reserve was acquired through regulated contracts.

The annual concentration indexes for the ancillary services for the years 2008-2011 are given in Table 3.10.

Table nr. 3.10

| Year/component | | Secondary reserve | Fast tertiary reserve | Slow tertiary reserve |
|-----------------------|--------|-------------------|-----------------------|-----------------------|
| 2008 | | | | |
| regulated component | C1 (%) | 82.6 | 82.6 | 78.2 |
| | C3 (%) | 98.6 | 91.2 | 100 |
| competitive component | C1 (%) | 77.5 | 92.5 | 64.3 |
| | C3 (%) | 100 | 100 | 97.8 |
| | HHI | 6516 | 8605 | 4765 |
| 2009 | | | | |
| regulated component | C1 (%) | 62.2 | 80.2 | 71.7 |
| | C3 (%) | 88.7 | 90.4 | 100 |
| competitive component | C1 (%) | - | - | 42.1 |
| | C3 (%) | - | - | 82.7 |
| | HHI | - | - | 2869 |
| 2010 | | | | |
| regulated component | C1 (%) | 71.3 | 83.0 | 44.2 |
| | C3 (%) | 92.5 | 90.0 | 90.2 |
| competitive component | C1 (%) | - | - | - |
| | C3 (%) | - | - | - |
| | HHI | - | - | - |
| 2011 | | | | |
| regulated component | C1 (%) | 56.1 | 80.2 | 40.2 |
| | C3 (%) | 83.5 | 88.3 | 84.7 |
| competitive component | C1 (%) | - | 77.0 | 63.4 |
| | C3 (%) | - | 93.3 | 96.5 |
| | HHI | - | 6089 | 4815 |

In some cases, based on the collected data and the calculated concentration indicators, detailed analyses were performed in 2011 by ANRE Market Department for several components of the wholesale market:

- **supply margins of suppliers trading exclusively on the wholesale market in 2011.** About 90% of these suppliers registered positive values of the supply margin the average value being 3.15 ROL/MWh, significantly higher than in 2010. Costs/revenues from the BRP imbalance settlement by suppliers trading exclusively on the wholesale market led to a decrease of the supply margin that reached 2.01 ROL/MWh, a value similar to the one in 2010. However, almost half of the said suppliers obtained supply margins that were higher than 5 ROL/MWh, despite the general increase in prices recorded on the wholesale market. This may suggest, among other things, that in Romania it is possible and necessary to strengthen market competition, the gains obtained from the trading activity being high in relation to the size of activity;
- **final accounting results for 2010 of economic operators (dispatchable generators, situația TSO, incumbent suppliers, distribution operators) operating on the regulated market.** The analysis showed that under difficult economic conditions for half of the generators the year ended on profit, with values exceeding the profits recorded in 2009. Of the generators who had losses (generally the cogeneration producers), one large thermal power generator stands out who failed to overcome the situation in the previous year which also ended with losses. Not only the TSO maintained its profit, but its value doubled the 2009 profit value although the gross

profit rate was below 1%. Two of the seven incumbent suppliers had losses and all the distribution operators had profit;

- **activity of electricity suppliers on the wholesale market based on the quantitative balance for each supplier having monthly reports of the suppliers, market operator and the responsible balancing parties as starting points;** the analysis identified a series of facts that determined certain suppliers not to close that respective quantitative balances: special clauses in certain electricity purchase contracts which required to ensure the balancing for certain parts of the consumption associated to consumers supplied on the competitive market, differences regarding the reporting of quantities on CET hours or RO hours, transactions made with at least one company within the same group/holding, the way in which imbalances are allocated within the BRP;
- **the evolution of the electricity DAM in order to identify the causes leading to the significant increase of the spot price during May-October 2011;** the detailed analysis identified the main factors leading to the increase in the DAM spot price: reducing hydro resources, increasing accidental outages of the power units, overlaid with planned stops for the maintenance programmes of some major producers, the inability of DAM participants to build bidding strategies upon purchase etc. Under these conditions, corrective measures were proposed, including warning some producers regarding the mismanagement of primary resources.
- **the balancing market development in 2011, for the purpose of determining the causes that led to higher traded electricity quantities, deficit and surplus prices for the settlement of imbalances.** The detailed analysis identified as the main causes of the noted evolution the following:
 - the electricity deficit in the NPS, caused particularly by the lowering of hydro resources, having an effect in the offers policy of the participants both on DAM and BM,
 - the negotiated sale contracts of electricity, concluded by the producers with a supplier in order to create a purchasing ‘basket’ destined to be resold to another supplier, and it exported or resold on DAM, obtaining a maximization of the supply margin,
 - the fact that some of the main producers participating in BM concluded commercial contracts up to available quantity limit, and there was registered an electricity surplus only at dispatchable co-generation producer not bidding on DAM etc.;
- as a result of the **circumstances occurring on the CMBC in December when a sale-and-purchase transaction was concluded by SC Hidroelectrica SA and SC Arcelor Mittal Galați SA** at the price of 139 lei/MWh (TG included) for a quantity of 1.7 TWh for 2011, ANRE started an investigation, including through consultation of the participant SC Hidroelectrica SA. This was determined by Hidroelectrica decision to sell a quantity of electricity corresponding to a daily delivery profile of 200 MW for a period of 1 year at a much lower price than the market price in that period and much lower than that producer could have obtained by placing its own offers to sell the same amount of electricity. Many questions have been raised during the investigation as to the hydro producer compliance with the non-discriminatory bidding conditions and to the negative impact of the said transaction on the equality of chances principle and the correct price formation on the CMBC. Following an intense correspondence with the respective producer ANRE Market Department within completed the analysis by submitting a notification with a proposal for a sanction for contraventions, according to law. This case is currently also subject to the investigation launched by the European Commission – Directorate General Competition regarding a possible state aid in the

form of preferential prices for electricity supply by Arcelor Mittal Galați SA in 2010 and 2011.

3.2.2. Electricity retail market

According to the *Methodology for the monitoring of the retail market approved through ANRE Order No.60/2008*, with the subsequent amendments and complements, based on the reports of the supply licence holders ANRE assesses the level of efficiency, transparency and competition on REM.

In 2011, 61 suppliers were active on the retail market, of which 10 are also holders of generation licenses, and 7 are the default suppliers – 3 state-owned and 4 with private majority ownership. Mention should be made that the three state-owned suppliers merged in September.

The analysis of the **evolution of the electricity consumption structure** to the final customers based on the data processed by ANRE for 2011 shows the following:

| Consumption | 2008 | | 2009 | | 2010 | | 2011 | | Evolution 2011 versus 2008 | Evolution 2011 versus 2009 | Evolution 2011 versus 2010 | Evolution 2010 versus 2008 | Evolution 2010 versus 2009 |
|--|-------|-----|-------|-----|-------|-----|-------|-----|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | GWh | % | GWh | % | GWh | % | GWh | % | | | | | |
| Consumers on regulated market | 23416 | 51 | 23046 | 55 | 21365 | 49 | 20289 | 44 | 87 | 88 | 95 | 91 | 93 |
| Households | 10376 | 23 | 10990 | 26 | 11246 | 26 | 1159 | 25 | 112 | 105 | 103 | 108 | 102 |
| Non-households | 13040 | 28 | 12057 | 29 | 10119 | 23 | 8699 | 19 | 67 | 72 | 86 | 78 | 84 |
| Consumers on competitive market | 22414 | 49 | 18536 | 45 | 22075 | 51 | 25525 | 56 | 114 | 138 | 116 | 98 | 119 |
| Households | | | | | | | | | | | | | |
| Non-households | 22414 | 49 | 18536 | 45 | 22075 | 51 | 25525 | 56 | 114 | 138 | 116 | 98 | 119 |
| Total final consumption | 45830 | 100 | 41583 | 100 | 43440 | 100 | 45814 | 100 | 100 | 110 | 105 | 95 | 104 |

- final electricity consumption increased by approx. 5% compared to 2010 and by 10% compared to 2009, reaching the value recorded in 2008;
- household consumption increased by about 12% as compared to 2008, by 5% as compared to 2009 and by 3% compared to 2010 (the weight in the final consumption remains relatively constant ranging between 23 ... 26%);
- non-household consumption on the competitive market increased by about 16% compared to 2010, by 38% compared to 2009 and by 14% compared to 2008, respectively;
- non-household consumption on the regulated market decreased by about 14% compared to 2010 concurrently with the decrease of its weight in the final consumption.

The total number of consumers supplied on the regulated market by December 31 was **8,944,092**, of which **8,381,062 households** and **563,030 non-households**. The total amount of electricity supplied on this market was about **20289 GWh**, about 5% lower as compared to the one registered in 2010, with the growth of total final consumption of about 5%.

In December 2011, **12675** eligible consumers were present on the competitive market, the amount of electricity supplied on this market in 2011 being **25525 GWh**, an increase by about 16% over the same period of the previous year.

Since January 2011, electricity supplied in the retail market also includes the electricity that was self-supplied to other consumer sites by 3 dispatchable electricity generators whose self-supplied quantities exceeded 200 GWh în 2010 (CE Turceni, CE Rovinari, RAAN and OMV Petrom).

The number of consumers on competitive market is presented graphically as cumulative value since the beginning of market opening.

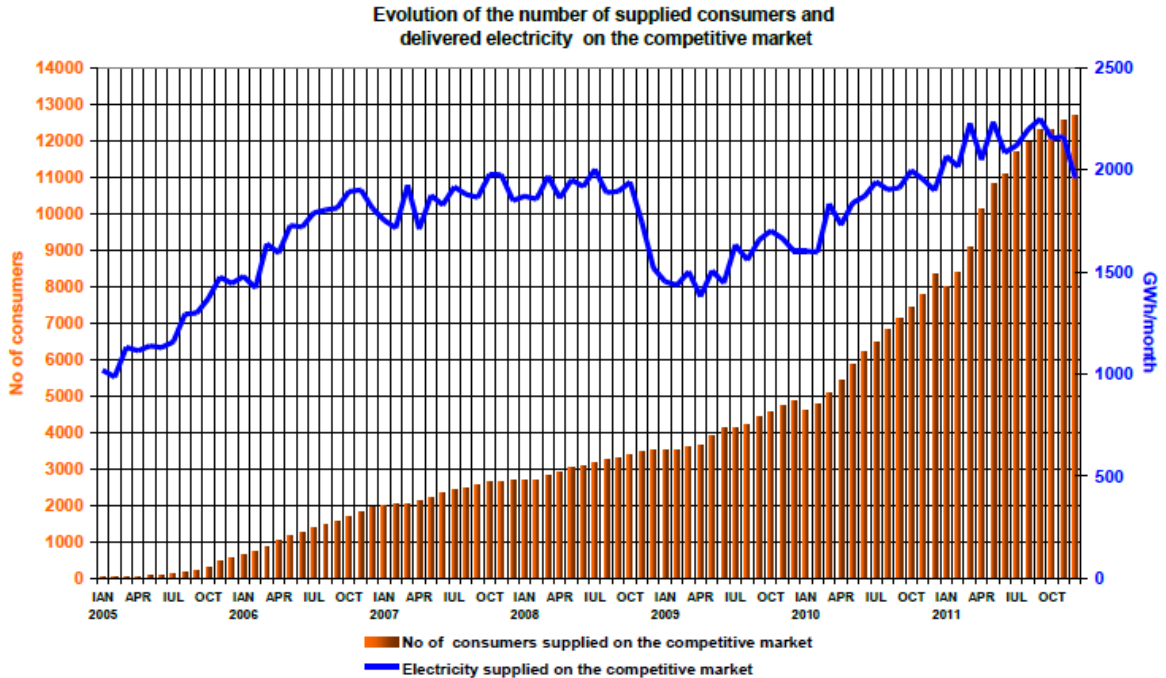


Figure 3.17

In 2011, the real market opening degree increased by 6 percentage points as compared to 2010, representing about 56% of the total final consumption.

The annual evolution of the retail market opening degree is given in Figure 3.18.

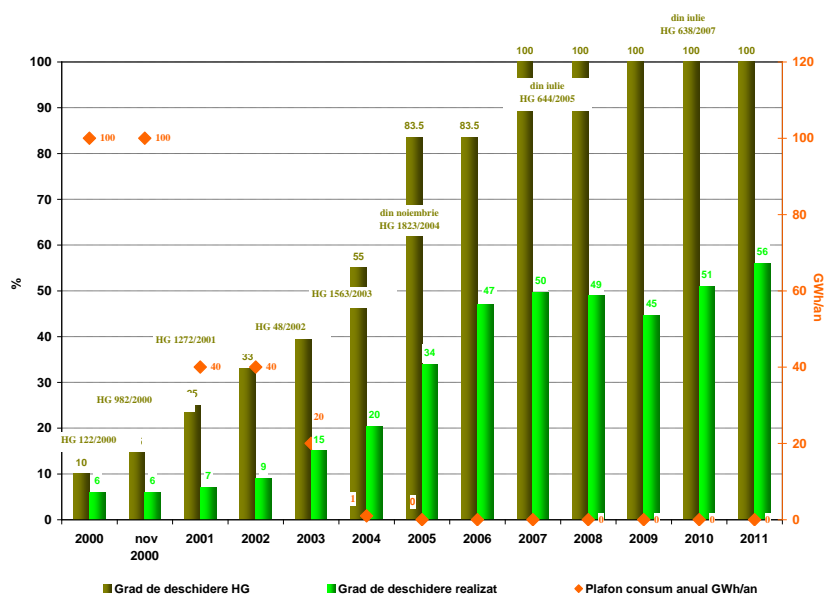


Figure 3.18

The switching rate for the year 2011 presented in *table 3.11* is determined for each type of consumers in two ways: in terms of **number of consumer sites that switched suppliers in 2011** and according to **the energy supplied** to the respective consumer sites. Mention should be made that the self-consumption of the largest industrial consumers also holders of electricity supply licenses and who decided to purchase electricity on the wholesale electricity market as competitive suppliers is not included.

Table 3.11

| Nr. crt. | Consumer type | Rate of switching the supplier | |
|-----------|--|--------------------------------|----------------------|
| | | No. consumer sites | Electricity supplied |
| 1. | Small non-households + households (contracted power less or equal to 100 kVA) | 0.022% | 1.792% |
| 2. | Large non-households (contracted power between 100 kV and 1000 kV) | 3.331% | 4.605% |
| 3. | Very large non-households (contracted power higher or equal to 1000 kV) | 10.434% | 7.945% |
| 4. | TOTAL REM | 0.031% | 4.502% |

Source: Data reported by suppliers, data interpretation and analysis by ANRE

The value of the switching rate for all categories of consumers determined on the basis of consumer sites and on the supplied volumes decreased as compared to last year results, which indicates a lower migration rate.

The evolution of the switching rate determined by number of consumer sites for the period 2008-2011, is given in the *Figure 3.19*.

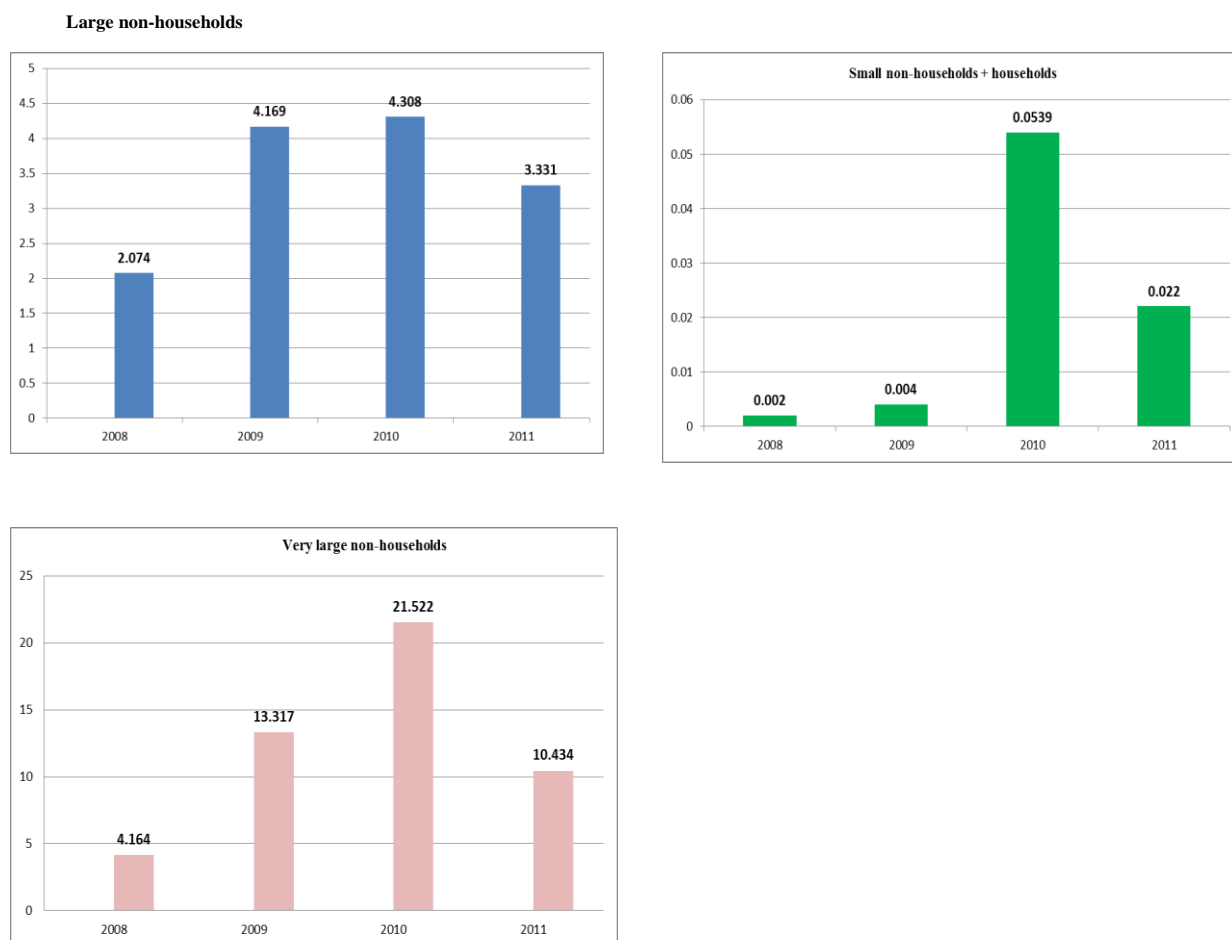


Figure 3.19

Table 3.12 presents information on the number of suppliers with market shares higher than 5% and the market concentration indicators on each type of final consumers, in 2011.

Mentional should be made that the dominance principle was taken into consideration upon calculation of the market indicators value in table 3.12. The electricity supply value used for calculating the market share of each supplier does not include the self-consumption of the largest industrial consumers also holders of supply licenses and who decided to buy the electricity from the wholesale market as competitive suppliers.

Table 3.12

| Nr. crt. | Consumer type | No. of suppliers with market shares higher than 5% | C1 | C3 | HHI |
|----------|---|--|------------|------------|-------------|
| 1. | Small non-households + households (contracted power less or equal to 100 kVA) | 4 | 37% | 85% | 2941 |
| 2. | Large non-households (contracted power between 100 kV and 1000 kV) | 5 | 29% | 68% | 1840 |
| 3. | Very large non-households (contracted power higher or equal to 1000 kV) | 6 | 19% | 42% | 840 |
| 4. | TOTAL REM | 5 | 29% | 60% | 1564 |

Source: Data reported by suppliers and processed by ANRE

Values of market structure indicators calculated for 2011 show:

- a moderate level of concentration throughout the retail electricity market for the retail segment corresponding to large non-households, as well;
- a non-concentrated market for the retail segment corresponding to the very large non-households;
- a high concentrated market for the retail segment corresponding to small non-households and households.

Half of the competitive suppliers operating on the retail electricity market recorded positive values of their supply margin the average value in 2011 being 5.43 ROL/MWh, and by considering the costs of the BRP imbalances the average supply margin is 2.27 ROL/MWh. About 40% of the competitive suppliers recorded values over 5 ROL/MWh, while the top ranked suppliers recorded spectacular results due to the selling price that was well above the average value recorded for the relevant consumer categories. The lack of the electricity intermediary activity for the competitive suppliers with very large margins was noticed.

Table 3.13 presents the average selling prices for each category of **non-households supplied on the competitive market**. Data show that the average price increased from 2010 when its value was 243.54 ROL/MWh, increased values being recorded for each category.

Table 3.13

| Categorie consumatori | Consum (MWh) | Pret mediu (lei/MWh) |
|-----------------------|-------------------|----------------------|
| IA | 258,546 | 381.24 |
| IB | 1,316,673 | 358.56 |
| IC | 2,275,073 | 319.63 |
| ID | 4,999,285 | 289.09 |
| IE | 3,102,360 | 266.67 |
| IF | 2,462,966 | 253.77 |
| Alti | 11,110,341 | 213.07 |
| Total | 25,525,245 | 257.11 |

The average selling price resulted from dividing the total value of the revenues obtained by the supplier from sales to a certain consumer category (including the c/value of the provided

services: transmission generation, transmission load, system services, distribution, market settlement, imbalances, BRP aggregate fees, metering) by the total amount of electricity sold to that respective category. Prices do not include VAT, excises or other taxes than those specified.

Classification of consumer categories was based on their annual consumption forecast, in accordance with the amendments of Directive 2007/394/EC introduced through Decision 377/90/EC in June 2007. The table below details the consumption ranges for each category separately.

| Nonhouseholds | Annual electricity consumption (MWh): | |
|---------------|---------------------------------------|----------|
| IA | | <20 |
| IB | 20 | <500 |
| IC | 500 | <2000 |
| ID | 2000 | <20000 |
| IE | 20000 | <70000 |
| IF | 70000 | <=150000 |
| Others | >150000 | |

Table 3.14 presents the average revenue prices for the period 2005-2011 for households and non-households supplied on the regulated market and for non-households supplied on the competitive market. The prices are expressed both in RON and Euro, the conversion being made based on the monthly average exchange rates Euro/RON published by Central Bank of Romania (BNR).

Table 3.14

| Consumers | Average price | | | | | | | | | | | | | |
|-------------------------------------|---------------|------|------|------|------|------|------|----------|------|------|------|------|------|------|
| | lei/MWh | | | | | | | Euro/MWh | | | | | | |
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Consumers in the regulated market | 286 | 316 | 340 | 354 | 370 | 384 | 381 | 79 | 90 | 102 | 96 | 87 | 91 | 90 |
| Consumers in the competitive market | 144 | 168 | 188 | 224 | 242 | 244 | 256 | 40 | 48 | 56 | 61 | 57 | 58 | 60 |

The selling prices for the consumer categories listed in Table 3.15. resulted from the synthesis of data for the eligible consumers and for consumers who choose not to change the supplier.

Table 3.15

| Consumer type | Euro/MWh | | | | |
|---|-----------------|--------------------------|-----------------------------------|-------|-------------|
| | Network tariffs | Taxes on network tariffs | Prices of electricity acquisition | Taxes | Total price |
| Households with annual consumption between 1000 and 2500 kWh/year | 49.79 | 0 | 34.46 | 26.70 | 110.95 |
| Non-households with annual consumption between 2000 and 20000 MWh/year | 20.98 | 0 | 49.82 | 22.95 | 93.75 |
| Average industrial with annual consumption between 20000 and 70000 MWh/year | 17.40 | 0 | 47.10 | 21.45 | 85.95 |
| Large industrial with annual consumption between 70000 and 150000 MWh/year | 11.63 | 0 | 50.19 | 20.82 | 82.64 |

Annual rate for euro for 2011: 4.2655 RON

3.2.3. Recommendations on supply prices

A copy of the annual report ANRE is preparing for CEER and the EC is sent to the Competition Council.

3.2.4. Carry out investigations and imposing measures to promote effective competition

The institution with responsibilities in carrying out investigations of violation of Competition Law is the Competition Council. ANRE has the obligation to notify the Competition Council on abuse of market power and on violation of legal provisions on competition whenever non-compliance with competition and transparency rules is identified.

3.3. Consumer protection

As of January 2005, according to the *Regulation for the labeling of electricity supplied to the consumers*, approved through ANRE Order no. 41/2004 and revised by ANRE Order no. 69/2009, electricity suppliers must include in the invoice they send to each customer, once a year, no later than April the 15th, the **electricity label supplied the year before**.

Based on the producers' statements, includes in the electricity label the following information:

- the weight of each primary energy source in order to cover the supplier's electricity acquisition
- the level of CO₂ emissions and the radioactive waste associated to the delivered electricity
- the comparison between the aforementioned data and the national average values.

The vulnerable customer is defined in the Electricity Law 13/2007 as the residential consumer who, for reasons of illness, age, or of other nature and through decision of Government and of the local public administration benefits from facilities in connection with the electricity supply service. Through the Performance Standard for the Distribution Service (Order no. 28/2007), ANRE imposed the distribution undertakings the obligation to provide the vulnerable customers who are ill or physically disabled a series of services such as an emergency phone number, registration as a medical equipment that needs special attention with a view to avoid disconnection.

ANRE provided for consumer protection measures for financially vulnerable consumers as well; these consumers shall benefit from social assistance programs. Until these programs are introduced, the social tariff will be the social protection instrument used in order to guarantee a minimum level of consumption for electricity. According to the *Procedure concerning the requirements and methodology for applying the social tariff to electricity household consumers*, approved by ANRE Order No. 38/2005 with subsequent amendments, vulnerable consumers with an average monthly wage per capita smaller or equal to the minimum wage as established by Government Decision are entitled to the social tariff. The social tariff was established on blocks of consumption with differentiated and gradually increasing prices, so that, up to 90 kWh/month, the average return price is below the price resulting from the application of any other tariff to household customers with low voltage supply. **1.173 million consumers** (2.5% less than in 2010) of a total of **8.38 million household consumers** are benefiting from the social tariff.

To gradually remove regulated tariffs to final consumers the Romanian authorities set up a timetable approved through government memorandum in March 2012. The process of phasing

out the regulated tariffs starts on **September 1, 2012** for non-households and **July 1, 2012** for households and ends on **December 13, 2013** for non-households and **December 17, 2017** for households, respectively. Maintaining regulated prices as public or universal service obligations and customer categories for which the regulated tariff is necessary shall be done only when, following annual evaluations, is noticed that such a measure is necessary in order to protect the general economic interest and cannot be identified another measure less restrictive in order to protect the final consumer.

To ensure the continuity of electricity supply to the consumers in case their supplier is no longer able to fulfill its contractual obligations (license suspended/withdrawn) ANRE issued Order No. 14/2007 - *Regulation for the supplier of last resort*.

ANRE issues on an annual basis an order designating the suppliers that have the obligation to provide, when activated, the service of supplier of last resort. For very large consumers (with a power approved by the connection approval of more than 1 MW), the suppliers with a market share higher or equal to the market share of the default suppliers are designated as supplier of last resort. For the rest of the consumers, (household consumers and non-household consumers with powers smaller than 1 MW), the supplier of last resort is the default supplier in the distribution area of the consumer.

For proper and the correct information to electricity consumers, all suppliers are required to publish on its website and customer centers, the framework contract for the supply of electricity last resort. They are also required to have clauses in supply contracts acceptance or denial of their customers to be picked up by the providers of last resort activated by ANRE.

ANRE regulations provide that, for consumers supplied at regulated prices (consumer who has not exercised their right to choose their supplier) who does not pay the bill for electricity consumed within 30 days from the due date, the supplier shall apply penalties as a percentage to the amount due. If outstanding amounts are not paid within 45 days from the due date supplier may interrupt the power supply to the consumer, after notice 5 days before disconnection. Due date is 10 days of the invoice for non-household consumers, and 15 days from the invoice for consumer appliances.

Network operator is obliged to reconnect consumers disconnected for non-payment within two days after full payment of amounts due to suppliers. Additionally, the disconnected consumer must pay costs for the disconnect - reconnection operation.

There are several categories of consumers exempt from disconnection for non-payment. These are: hospitals, nursing homes, ambulance stations, retirement homes, nurseries, schools, air traffic services, marine and rail which contribute to road safety.

Electricity for households and small industrial / commercial at regulated tariffs is based on **framework contracts**. These contracts are issued by the regulator for each category of consumers in part and have minimum term mandatory clauses for contract extension terms and the conditions of termination tariff, meter reading period, the billing and payment terms, multiple ways to pay the bills (the consumer's home - in the case of household-by-charged readers to cashier supplier by bank or post office), compensation for voltage deviation from the nominal value, the provider must inform the consumer about interruptions scheduled.

Also in the Electricity Law, Regulation of electricity supply and supply licenses associated conditions included a series of contractual obligations of the suppliers for consumers, being prohibited inclusion otherwise stated in contracts negotiated with eligible customers. For this

purpose, ANRE cooperates with the Authority for Consumer Protection and Competition Council.

Consumer complaints management obligations are included in the licensing conditions of the framework contracts and the *Standard for electricity supply at regulated tariffs*. Supply license holders must ensure recording, investigating and solving complaints made against them by consumers about the quality of services, calculation and / or billing of electricity consumption. Customer service is mandatory and it must take any complaint made against a licensee who consider themselves harmed by consumer practices in the electricity licensee. Customer Service will establish and maintain the register of applications, notifications and complaints raised by consumers and how they have been solved.

In the event that consumer is not satisfied with the response of the economic operator, it may apply to ANRE according to the provisions of Ordinance No. 27/2002, as amended and supplemented.

The activities of complaints settlement and disputes resolution addressed to ANRE by individuals and legal parties were focused on disagreements, connection to the public electricity networks and those relating to conclude contracts in the electricity sector.

Of the total **2121** complaints received by ANRE in 2011, **1520** were regarding electricity. All complaints received were resolved in due time and in accordance with regulations, informing complainants and institutions through which were submitted to ANRE, as appropriate.

For complaints requiring further checks actions control were required. Solving these petitions was different, depending on the issues addressed: the written answers including explanations, explanations and references to legislation, spot checks, or by direct discussion with stakeholders.

Where noticed that petition problems relating to breach of legal provisions by operators has proved justified, ANRE sent letters warning them that established measures of compliance to legal provisions and / or were taken legal measures imposing sanctions.

The following table presents **the main categories of issues identified in complaints** solved in the electricity sector:

| No. | Main issues | Total | [%] |
|-----|-------------------------------------|-------|-------|
| 1 | Electricity billing | 345 | 22.70 |
| 2 | Electricity quality | 308 | 20.26 |
| 3 | Issuing Technical connection permit | 115 | 7.57 |
| 4 | Measurement reading groups | 81 | 5.33 |
| 5 | Electricity theft suspected | 81 | 5.33 |

In the electricity sector, according to the *Procedure of disputes settlement* related to the conclusion of contracts between operators in the electricity sector, the electricity supply contract and grid connection contracts, approved by ANRE Order no. 38/2007, ANRE analyzes and solves:

- pre-contractual disputes arising from the conclusion of contracts between operators of electricity and heat in cogeneration;
- disputes on connecting users to public electricity networks and issuing site licenses approvals.

In 2011, there were a total of five requests for resolution of disputes according to the above procedure. Met the conditions for applying the procedure of 2 requests, both of which were solved following preliminary stage.

By **control activities**, the regulator aims to achieve appropriate quality work and service performance requirements required to participants involved in the production, transmission, distribution, supply and use of electricity by law, including those involved in the design and development of installations and equipment used for these activities. In 2011, **222 inspections** were made in the energy sector. Following control actions have been prepared **minutes of observation and sanctions with fines worth 1,514,600 lei**.

In 2011 it was negotiated and obtained a EBRD grant to carry out a study to assess the costs and benefits of long-term market profitability and implementation of feasible deadlines associated with the promotion of **smart metering systems** to final consumers.

Given the regulatory provisions in force, stating the possibility of determining electricity quantities consumed hourly for settlement, based on consumer profiles for measuring points where it is not compulsory to install meters with hourly registration, ANRE started in 2010 and continued in 2011 the approving *Procedures for developing and implementing specific consumer profiles*.

Thus, during 2011 a procedure for developing and implementing specific consumer profiles was approved for the license zone of FDEE SC Electrica Transilvania Nord Distribution SA and 3 consumption profiles for the distribution operator FDEE SC Electrica Transilvania Sud SA.

The regulator provides access to **customer consumption data** in a harmonized national environment, under "Procedure for changing electricity supplier", approved by ANRE Order no. 88/2009, as supplemented and amended. The regulation stipulates that each network operator must perform and centrally manage a database with information on consumption places connected to the electricity network from it's own area of license and has the obligation to provide access to information database for suppliers and consumers. The access is granted for owned consumer measuring points based on operational procedures approved by ANRE. Minimum content of the database is established by ANRE by the same procedure.

As a result, during 2011, the distribution operators have developed operational procedures for providing access to database consumer places in their areas of license. Consumer access to the database for measuring point / points in it's belonging is unrestricted, free and guaranteed by law. The draft of the operational procedures for access to databases have been published on ANRE's website as discussion documents, and after considering the comments received there has been prepared a final form of documents. The approval process of the procedures will continue during 2012.

3.4. Security of supply

The responsibility of ensuring the demand-offer balance on medium and long run stays with the Ministry of Economy, Trade and Business Environment (MECMA), which is the issuing body of the national energy strategy (approved through G.D. no. 1069/2007). This document provides information on the strategic investments in electricity generation, transmission and distribution and on the energy efficiency and demand-side-management actions with a view to ensuring the security of electricity supply. In recent years, the Ministry has released a draft update of this document.

According to the Electricity Law no. 13/2007, with subsequent amendments, the TSO issues the Transmission Network Development Plan on medium and long – run (10 years). This Plan is endorsed by the regulator and approved by the competent ministry. On short run, the TSO is also responsible for the transmission networks operational planning and running, aiming to meet the criteria and standards set in the Transmission Grid Code, which was issued by the TSO and approved by the regulator (ANRE Order no. 20/2004, with the subsequent amendments and complements). Because of the membership of ENTSO-E, the TSO is involved also in the development plan for 10 years for the European transport network.

The Romanian Energy Regulatory Authority (ANRE) provides the necessary regulatory framework to promote investments in the electricity sector by granting licenses and authorisations, by issuing and approving the prices and tariffs methodologies, by issuing commercial and technical regulations as well as rules for network connection and access.

In 2011, the electricity production amounted to 61,9 TWh with approximately 1,9% higher than 2010. Domestic consumption amounted to 60 TWh, with 3,6% higher than in 2010.

In 2011, the peak load occurred on 03.02.2011, when it reached a net value of 8724 MWh.

Among the primary sources for electricity generation in 2011, classical energy sources prevailed, 50% being provided from solid, liquid and gaseous fuel. In order to meet the electricity demand, nuclear sources contributed with approx. 18%, whereas E-RES had a share of 28% (hydro), 2% (wind) and 1% (biomass) of the structure of energy delivered to the networks by dispatchable and non-dispatchable energy producers.

In 2011, Romania faced a severe water shortage affecting the inner rivers and the Danube with serious consequences in reducing the water reserves of the main reservoirs and in the level of electricity production from hydroelectric sources, implicitly. The most important electricity producer from hydroelectric sources, Hidroelectrica, activated the force majeure clause for the commercial contracts in progress for the sale of electricity, thus being able to lower energy supplies in proportion to the production decrease caused by the severe drought. The force majeure was declared on September 30, 2011, with effect from 04 October 2011, after obtaining the certificate of force majeure issued by the Chamber of Commerce and Industry of Romania.

Compared to 2010, in 2011 there were decreases in particular energy supplied on the basis of oil (16%) and hydro (with approx. 19%), while nuclear fuel based energy remained approximately constant. The resources that provided the increase of total energy delivered in the network was the solid fuel (20%) and gas (about 26%). The biggest increase was recorded in delivered energy from renewable, mainly wind (for approx. 3 times higher than last year). In total, electricity delivered into the network and produced from conventional and unconventional sources, in dispatchable and non-dispatchable units, has increased by approx. 5%.

The structure by type of fuels for electricity delivered in the networks by the Romanian producers with dispatchable and non-dispatchable units is given in *figure 3.20*.

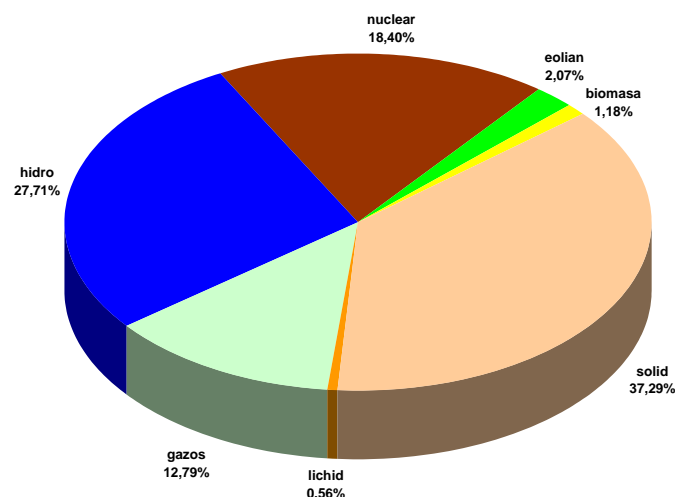


Figure 3.20

Maximum net generation capacity available for a period of at least 15 hours per day, was of 17.376 GW on 31.12.2011.

Based on the ENTSO-E study “System Adequacy Forecast 2012-2025”, the forecast of the net generation capacities and of the electricity consumption in Romania based on 3 scenarios is presented in below:

| Scenario A | 2012 | | 2015 | | 2016 | | 2020 | |
|------------------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am |
| Net generation capacity (GW) | 18.30 | 18.10 | 19.70 | 19.90 | 20.20 | 20.20 | 22.30 | 22.30 |
| Consumption (GW) | 8.33 | 7.43 | 9.24 | 7.60 | 9.48 | 7.80 | 10.51 | 8.62 |

| Scenario B | 2012 | | 2015 | | 2016 | | 2020 | | 2025 | |
|------------------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am |
| Net generation capacity (GW) | 18.30 | 18.10 | 19.80 | 20 | 20.40 | 20.60 | 24.40 | 24.40 | 25.50 | 25.50 |
| Consumption (GW) | 8.33 | 7.43 | 9.24 | 7.60 | 9.48 | 7.80 | 10.51 | 8.62 | 11.80 | 9.61 |

| Scenario EU 2020 | 2012 | | 2015 | | 2016 | | 2020 | |
|------------------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am | January 19:00 pm | July 11:00 am |
| Net generation capacity (GW) | 18.30 | 18.10 | 20.40 | 20.80 | 21 | 21.20 | 25.70 | 25.70 |
| Consumption (GW) | 7.89 | 7.74 | 8.23 | 8.07 | 8.42 | 8.27 | 9.28 | 9.11 |

Establishment of new generation capacities and the retrofitting of the existing ones are carried out based on **establishment authorisations** issued by ANRE (*table 3.16*). The granting procedure as well as the conditions of the establishment authorisations (criteria, power levels, approvals, differentiated by categories of power and by activities) are stipulated in the *Regulation for the granting of authorisations and licenses in the electricity sector*, issued by the regulator and approved by the Government (GD no. 540/2004, amended and complemented by GD no. 1823/2004 and GD no. 553/2007). Refusal to grant an authorisation, lack of response within deadline and any ruling of the regulatory authority considered illegal and prejudicial by the applicant, can be appealed in the Bucharest Court of Appeal, according to the law.

Table 3.16

Establishment authorisations granted in **2011**

| No. | <i>Authorised energy capacities new installations</i> | <i>No. of authorisations granted</i> | <i>Installed power of authorised capacities MWe</i> |
|------------|--|--|---|
| 1 | Wind capacities | 25 | 959.5 |
| 2 | Hydropower capacities | 12 | 38.87 |
| 3 | Photovoltaic electricity generation capacities | 2 | 6.01 |
| 4 | Electricity generating cogeneration capacity | 9 | 28.53 |
| 5 | New biomass power and thermal energy capacities (cogeneration units) | 1 | 2.262 |
| 6 | Total | 49 | 1035.17 |

In conducting its activities, the licensees shall consider establishing public service obligations on reliability, power quality, continuity of supply, energy efficiency and environmental protection and contract compliance services.

In the event that following authorization procedure of the generating capacity to be built or the line management measures energy efficiency / demand is not sufficient to ensure security of supply for domestic consumption, the Ministry may initiate a tendering procedure or any other procedure similar for the award of a contract in terms of transparency and non-discrimination on the basis of published criteria, inviting new operators or pre-existing license holders to tender for new generating capacity.

To promote energy produced from renewable energy sources (E-RES) such as wind, solar, geothermal, biomass, waves, hydrogen and in hydropower units with installed powers of 10 MW or below, put into operation or modernised after 2004, a **green certificates market** was introduced and became operational in November 2005.

Changes to the scheme by Law no. 220/2008, as amended and supplemented, have been notified to the European Commission in June 2011, after a pre-notification stage which lasted approx. 2 years. Commission's reply was received in July 2011. It concluded that the notified scheme is in accordance with the guidelines on aid for environmental protection, and is therefore compatible with the internal market, in accordance with art. 107, para. 3, c) TFEU.

Following the accreditation stage producers of energy from renewable sources through green certificates support scheme in 2011, it appears that total installed electric power production units approved in 2011 is 1,225.6 MW, of which 821.8 MW in wind, hydro 377.7 MW installed power of 10 MW, 25.1 MW in biomass and 1 MW in photovoltaic. In *figure 3.21* is reflected the evolution of installed capacity during 2005-2011.

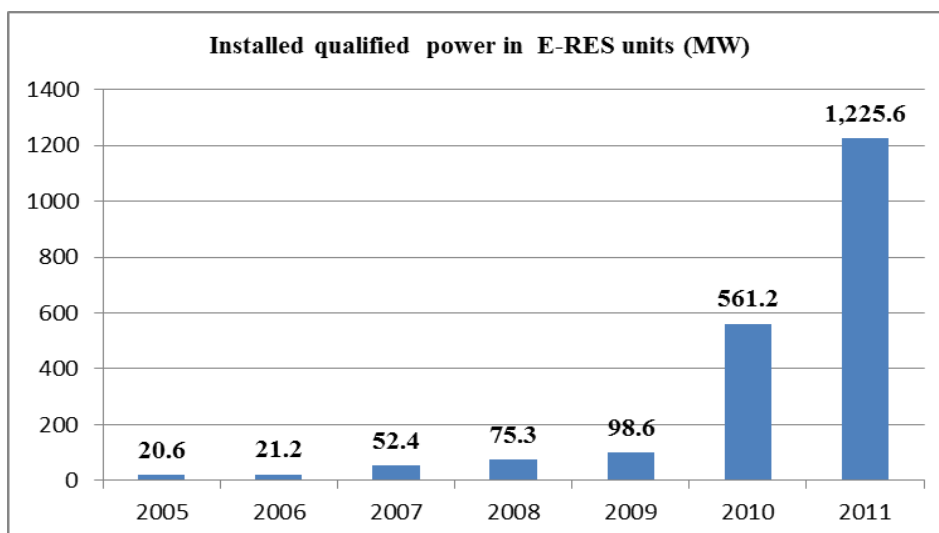


Figure 3.21

For cogeneration capacities since April 2011, it has been introduced the bonus-type support. The scheme was notified to the Commission in accordance with European regulations on state aid.

For the support scheme are eligible :

- the producers active in the production of electricity and heat in cogeneration, except those using renewable energy sources, and
- consumers which own low power and micro cogeneration plants, which use the electricity and heat produced mainly for own consumption, have measuring groups that are legally compliant and delivers a part of the electricity produced to the network.

It shall not be granted support scheme for the amount of electricity produced in high efficiency cogeneration plants that is not delivered to the power grid.

For the 32 producers involved, the total amount of electricity produced in high efficiency cogeneration which received bonuses during April-December 2011 was 3408 GWh.

For both support schemes monitoring methodologies have been developed to assess the functioning and their efficiency.

4 Natural gas market

4.1 Network regulation

The main characteristics of the Natural Gas National Transmission System (NTS) are:

| | |
|--|--|
| Total length: | 13,366 km, of which 553 km are transit pipelines; |
| The number of compressor stations: | 5 compressor stations having a total installed power of 32 MW; |
| The number of valve control stations and/or technological nodes: | 51 valve control stations/ technological nodes; |
| The number of cathodic protection stations: | 966 cathodic protection stations; |
| Number of gas odorization units: | 772 gas odorization units; |
| Pipeline diameter: | between 50 mm and 1200 mm; |
| Operating pressure: | between 6 bar and 35 bar, the transit is carried out at 54 bar; |
| NTS interconnections with other transmission systems/ operators of adjacent systems: | |
| Total number: | 9 physical interconnection points as follows: <ul style="list-style-type: none">• Csanádpalota / FGSZ (HU);• Negru Voda I / Bulgartransgaz (BG);• Negru Voda II / Bulgartransgaz (BG);• Negru Voda III / Bulgartransgaz (BG);• Medieșu Aurit / Ukrtransgaz (UA);• Isaccea I / Ukrtransgaz (UA);• Isaccea II / Ukrtransgaz (UA);• Isaccea III / Ukrtransgaz (UA);• Isaccea IV / Ukrtransgaz (UA); |
| With the exception of Csanádpalota physical interconnection point, all other physical interconnection points are operated by the Romanian TSO; | |
| NTS interconnections with LNG terminals/ operators of adjacent systems: | |
| Not applicable. | |
| NTS interconnections with gas storage facilities/ operators of adjacent systems: | |
| Total number: | 8 physical entry/exit points connected to storage facilities as follows: <ul style="list-style-type: none">• Sărmaș / SNGN Romgaz SA;• Bălăceanca / SNGN Romgaz SA;• Butimanu / SNGN Romgaz SA;• Cetatea de Baltă / SNGN Romgaz SA;• Ghercești / SNGN Romgaz SA;• Urziceni / SNGN Romgaz SA;• Tg. Mureș / SC Depomureș SA;• Nadeș - Prod – Seleuș / SC Tengaz SA; |

These physical entry/exit points are not operated by the TSO;

NTS interconnections with production facilities /producers:

Total number: 151 physical entry points as follows:

- 102 entry points / SNGN Romgaz SA;
- 42 entry points / SC OMV Petrom SA;
- 5 entry points / SC Amromco Energy SRL;
- 1 entry point / SC Raffles Energy SRL;
- 1 entry point / SC Lotus Petrol SRL;

These entry points are not operated by the TSO;

NTS interconnections with distribution systems/ operator of distribution systems:

Total number: 857 physical exit points / 39 operators of distribution systems;

These physical exit points are not operated by the TSO.

NTS interconnections with direct consumers / direct consumer type:

Total number: 249 physical entry points as follows:

- 18 gas power plants, having a total installed power of 3.084 MW;
- 31 industrial works;
- 175 commercial consumers;
- 25 residential consumers.

These physical exit points are operated by the TSO;

Interconnections between production facilities and distribution systems:

Total number: 76 physical entry/exit points for natural gas direct deliveries;

These physical entry/exit points are operated by the TSO;

Physical centers for trading and virtual points of sale:

Not applicable;

Balancing areas:

Not applicable;

Source: www.transgaz.ro

4.1.1. Unbundling

In Romania there is a sole **operator for the natural gas National Transmission System**. By the government decision no. 334/2000, SNTGN Transgaz - S.A. Mediaș has been designed as the operator of the national transmission system and is responsible by its operation under quality, safe, economic efficiency and environmental protection conditions.

According to the Gas Law No. 351/2004, with subsequent amendments, the NTS operator shall ensure:

- a) NTS operation and physical balancing, namely programming, dispatching and safe functioning of the NTS;
- b) Maintenance, rehabilitation, upgrading and development of NTS whilst observing the principles of safety, efficiency and environmental protection;
- c) Setting up, maintenance and development of an IT system for surveillance, control and acquisition of data, that will allow for the monitoring and real time management of the functioning of the gas transmission system;

-
- d) Third party access to the NTS in compliance with the specific regulations, in a non-discriminatory manner, in the limits of the transmission capacities and observing the technological regimes;
 - e) Elaboration and implementation of optimal transmission and delivery regimes for the volumes of gas notified by producers, suppliers, storage operators and/or customers, for a certain period, in accordance with signed contracts;
 - f) Elaboration and update of the technical agreements for exploitation at the border, in case the supplier is an exporter or beneficiary of the transit of gas through Romanian territory;
 - g) Drafting and surveillance of the balance of the gas that got in and out of the system;
 - h) Drafting of NTS's own development program – for the undertakings not mentioned in the concession agreement, in relation with the actual level of the consumption and taking into consideration the development of new consumption areas and the evolution of the existing ones under safe and economically efficient conditions;
 - i) Storage in the underground storages of the volumes of natural gas needed to secure NTS permanent physical balance, as per specific regulations issued by regulatory authority;
 - j) The level of odorization of gas in compliance with the regulations in force.

Also, the regulator drafted and approved in 2006 the Conditions on validity of the license for gas transmission (ANRGN Decision No. 1362/2006), detailing the rights and obligations of the transmission system operator. Transmission licensee's obligations mainly refer to:

- Operation of the natural gas National Transmission System
- Contracting of the gas transmission service in a non-discriminatory manner to all market participants, on the basis of the framework-contracts issued by the regulator
- Access to the natural gas National Transmission System, under equal and non-discriminatory terms
- Development of the natural gas National Transmission System, according to the clauses and terms of the concession agreement, and to NTS's own development program
- Measurement of natural gas volumes
- Delivery of information to applicants/users with a view to efficient development of access process to the system
- Observance of the transparency requirements in compliance with Regulation 1775/2005/EC
- Observance of the Performance Standard for gas transmission
- Ensuring of a competitive environment and non-discriminatory treatment of system users
- Unbundling of the financial-accounting registers, as well as legal, functional and organizational unbundling
- Ensuring the confidentiality of the information gathered during the performance of activity.

The certification of the transmission system operator was not completed during 2011 due to the delay in transposing the provisions of the third energy package into the national legislation and the difficulties arising from the ownership unbundling between generation, supply and transmission.

Distribution operators are titular of distribution licenses, having as a main activity natural gas distribution, in one or more limited areas. At the end of 2011, **40 companies own distribution licenses** on natural gas in Romania.

The total length of the distribution networks at the end of 2011 is about of 40,000 km.

As per Gas Law No. 351/2004, with subsequent amendments, the natural gas distribution system operators have mainly the following obligations:

- a) To operate, maintain, repair, upgrade and develop the distribution system, whilst observing the principles of safety, economic efficiency and environmental protection. The activities shall be performed on the basis of specific authorizations for the design and execution of gas supply systems, and the operation on the basis of the distribution license;
- b) To ensure the gas odorization level according to regulations in force, on the basis of service rendering contracts, signed with NGT operator, and, where appropriate, by additional odorization in gas adjusting stations;
- c) To perform interconnections with other systems, as the case may be, and ensure the long term capacity of the distribution system;
- d) To ensure third party access to the distribution systems, under non-discriminatory terms, within the limits of the distribution capacities, observing the technological regimes, in compliance with the specific regulations issued by the regulatory authority;
- e) To draft and oversee the balance between the gas that got into and out of the system;
- f) To avoid cross subsidization between categories of customers with regard to the division of costs for the booking of distribution capacity;
- g) To take over, for an undetermined period, upon request and in compliance with regulations, the operation of a certain distribution system, whose initial operator was penalized with withdrawal of the license;
- h) To ensure the permanent balancing of the system operated;
- i) To ensure the conditions for security of natural gas supply.

As per Gas Law No. 351/2004, with subsequent amendments, corroborated with the provisions of the *Rules regarding the accounting, legal, functional and organizational unbundling of the regulated activities in natural gas sector*, approved by ANRGN Decision no. 1139/2006, with subsequent amendments, gas operators performing regulated activities (transmission, storage, distribution, supply) shall ensure accounting, legal, functional and organizational unbundling of these activities. Distribution companies serving less than 100,000 customers are exempted from the provisions on legal unbundling.

Gas undertakings must submit regulated financial-accounting records/registers by July first (for supply and distribution) respectively, August 31 (for storage and transmission) of the regulated year following the reporting year.

The financial-accounting assessment comprise the following:

- Income assessment,
- Expenditure assessment,
- Tangible/intangible assets assessment,
- Inventory assets assessment

Also, natural gas undertakings must submit to ANRE for analysis and approval, unbundling reports, activity involving verifying the hypothesis, criteria and rules representing the base for drawing up distinct financial-accounting records in order to obtain information regarding: income, expenditure, tangible/intangible assets and inventory assets for the regulated activities performed.

Also, in accordance with the legal provisions in force (Gas Law No. 351/2004, with subsequent amendments), in order to ensure the independence of the transmission system operator and distribution system operator, minimum criteria shall apply, as provided by EU legislation. Thus, for the transmission operator:

- a) Those persons responsible for the management of the transmission system operator may not participate in company structures of the integrated natural gas undertaking responsible, directly or indirectly, for the day-to-day operation of the supply of natural gas;
- b) The transmission system operator shall have effective decision-making rights, independent from the integrated gas undertaking, with respect to assets necessary to operate, maintain or develop the transmission network.
- c) The NTS operator shall establish a compliance program, which sets out measures taken to ensure that discriminatory conduct is excluded, and ensure that observance of it is adequately monitored.

For the distribution operator:

- a) Those persons responsible for the management of the distribution system operator may not participate in company structures of the integrated natural gas undertaking responsible, directly or indirectly, for the day-to-day operation of the production and supply of natural gas;
- b) The distribution operator shall have effective decision-making rights, independent from the integrated gas undertaking, with respect to assets necessary to operate, maintain or develop the distribution network.
- c) The distribution operator shall establish a compliance program, which sets out measures taken to ensure that discriminatory conduct is excluded, and ensure that observance of it is adequately monitored.

The requirements regarding the accounting, legal, functional and organizational unbundling between transmission and supply have been accomplished in case of transmission system operator, S.N.T.G.N. Transgaz S.A., according with the legal provisions mentioned above.

The distribution system operators, S.C. E.ON Gaz România S.A and S.C. Distrigaz Sud S.A. were obliged to ensure accounting, legal, functional and organizational unbundling between distribution and supply. Following the legal unbundling of E.ON Gaz România, two legally independent companies are currently operating - E.ON Gaz România S.A., specialized in the supply of natural gas and E.ON Gaz Distribuție S.A., specialized in the distribution of natural gas, as well as operation and maintenance of the distribution network. The two new companies have separate headquarters. The procedures on the legal unbundling of the other large distribution operator, Distrigaz Sud, have been finalized in April 2008, being established S.C. Distrigaz Sud Rețele S.R.L. and S.C. Distrigaz Sud S.A. (later on S.C. GDF SUEZ ENERGY ROMANIA S.A.).

Regarding the obligation of legal unbundling of the underground storage activity, it was accomplished by the storage operator S.C. DEPOMUREȘ S.A. The legal unbundling of the last storage operator – S.N.G.N. Romgaz S.A. is still in process.

The other distribution system operators, who serve less than 100,000 consumers connected to the network, which, according to the legal norms, have been except from the obligation of legal unbundling, accomplished even since 2007 the accounting unbundling for the regulated activities they develop.

The licensed operators annually submit, to the authority, financial reports and regulated accounting records for the regulated activities they develop in natural gas sector.

Prior to submission to the regulatory authority, requested registers are audited/checked in compliance with the legal provisions in force, mainly observing the obligation on avoiding cross subsidies between activities performed is particularly monitored.

4.1.2. Technical functioning

The Network Code, approved by ANRE Order no. 54/2007, with the subsequent amendments, settles the conditions and rules for using the natural gas National Transmission System in Romania, as well as transparent and non-discriminatory access of third parties. The Network Code entered into force starting with gas year 2009-2010.

The network code of the natural gas National Transmission System establishes rules and procedures regarding the access to NTS, among them the most important are:

- a) Procedures for balancing the natural gas system, nominalizations and communication;
- b) Mechanisms for allocate capacities;
- c) Procedures for congestion management.

For 2011, for the natural gas market in Romania, no imbalance charges are applied, imbalance charges are comprised in the cost elements of the transmission tariff.

The Network Code has provisions for physical and commercial balancing of the NTS. The TSO has the obligation to calculate and communicate to each network user the followings:

- Daily – the daily provisional imbalance,
- Weekly – the provisional accumulated imbalance for that week,
- Monthly – the final daily and weekly accumulated imbalances.

According to the provisions of the Network Code, the users may request the capacity of the NTS:

- a) Before May 15, every year, for a natural gas year or a multiple of a natural gas years;
- b) After May 15, every year, for periods less than a natural gas year and only until the end of the current natural gas year.

The network users request the booking of NTS capacity by filling in and transmitting toward the NTS Operator (TSO) the „Capacity request” form together with the proposal of Transmission schedule.

TSO is obliged, within maximum 30 days period, to answer the network user regarding the access to NTS or to communicate the reasons for refusal (total or partial), as well as some observations on the proposed Transmission schedule.

TSO grants the available capacity from NTS to the network users (Transmission agents) based on the principle „first come, first served”. Priority shall be granted for the capacities requested in order to fulfil the public service obligations.

In order to settle the congestions, approved but unused capacity may make up the object of:

- a) Voluntary return to the TSO;
- b) Capacity transfer facility (CTF);
- c) Mandatory transfer from one network user to another by the TSO.

The regulatory authority drafted and approved Performance Standards for natural gas distribution and transmission (ANRGN Decision No. 1361/2006, with the with the subsequent

amendments, namely ANRE Order No. 59/2007, ANRE Order No. 45/2008, ANRE Order No. 33/2010 and ANRE Order no.47/2011).

The **transmission performance standard** sets up performance indicators for the following activities:

- a) Connection to the network of the users, including solving of their requests, the development of new connection instalations/modification of the existing ones and works for affected land's improvement by the connection works,
- b) Ensuring the supply safety and continuity, according with the contractual provisions and legal requirements,
- c) Solving NTS user's petitions regarding the quality of TSO service, other than those mentioned to letters a) and b),
- d) Solving NTS user's petitions regarding the measurements of natural gas,
- e) Informing NTS users according with the performance standard requirements and other regulations referring to the transmission service,
- f) Solving NTS user's petitions regarding TSO activity,
- g) Periodical verifications of NTS with devices for natural gas leakage detection.

The **distribution performance standard** sets up performance indicators for the following activities:

- a) Connection to the distribution network of the users, including solving of their requests, the development of new connection instalations and works for affected land's improvement by the connection works,
- b) Solving NTS consumer's petitions regarding the measurements of natural gas,
- c) Ensuring the supply safety and continuity, according with the contractual provisions and legal requirements,
- d) Solving consumer's petitions regarding the quality of TSO service, other than those mentioned to letters a) and b),
- e) Informing consumers according with the performance standard requirements and other regulations referring to the distribution service,
- f) Solving consumer's petitions regarding DSO activity.

For **natural gas supply activity**, the Performance Standard sets the commercial quality criteria, defined by performance indicators for ensuring the natural gas supply service, as well as for establishing the reporting needs for the suppliers (ANRE Order no. 37/2007).

The supply performance standard sets up performance indicators for the following activities:

- a) Natural gas contracting,
- b) Billing the supplied quantities of natural gas,
- c) Solving consumer's petitions regarding the quality of the supplied natural gas,
- d) Informing consumers according with the requirements of the performance standard ,
- e) Solving consumer's petitions regarding the non-observance by the supplier of the requirements of the performance standard ,
- f) Solving other petitions of the consumers.

4.1.3. Network tariffs for connection and access

According to the law, the regulatory authority elaborates, approves and applies criteria and methods for approval the prices and for setting the regulated tariffs setting in natural gas sector, including transmission and distribution tariffs.

For the calculation of gas prices and regulated tariffs ANRE uses its own methodology drafted by ANRGN in 2003 - „Criteria and methods for approval of gas prices and setting of

gas regulated tariffs”, approved by ANRGN Decision No. 1078/2003, with subsequent amendments, and ANRGN Decision No. 311/2005, with subsequent amendments.

The mechanisms for calculation of prices and regulated tariffs are of „revenue–cap” type for regulated underground storage and transmission, and „price-cap” for regulated distribution and supply.

The regulatory period for any of the regulated activities is 5 years, except for the first regulatory period (transitory stage), which was established for 3 years.

The methodology stipulates that the yearly efficiency gains achieved due to managerial performances increase could be kept for a 5 years period, starting with the year when they were obtained, for motivation of the licenses holders.

At April 1st 2011, according to the tariff methodology, began the fifth year of the second regulatory period 2007-2012 **for the underground storage activity**. To this regard, according to the methodology began the process of adjusting the regulated incomes for the gas storage operators, respectively SNGN ROMGAZ SA –storage branch Ploiești and SC DEPOMUREȘ SA and were issued **ANRE Order no 22/2011** concerning the extension of the validity period of ANRE Order no. 63/2009 concerning the setting up of regulated tariffs for the natural gas underground gas storage service performed by S.N.G.N. Romgaz S.A. – Mediaș and **ANRE Order no 21/2011** concerning the extension of the validity period of ANRE Order no. 81/2009 concerning the setting up of regulated tariffs for the natural gas underground gas storage service performed by S.C. Depomureș S.A. - Târgu Mureș.

The pricing system for storage contains a set of “revenue cap” tariffs, through which a total regulated revenue is established that covers all the costs related to a year activity of the regulatory period.

In the first, as well as in the second regulatory period, the tariffs for storage shall be established for each underground storage and have the following structure:

$$T(ds) = RC(ds) + I(ds) + E(ds)$$

where :

T(ds) – storage tariff

RC(ds) – fix component for booking the capacity into the underground storage, in lei /MWh/complete storage cycle

I(ds) – volume component for natural gas injection into the underground storage, in lei /MWh;

E(ds) – volume component for natural gas extraction from the underground storage, in lei /MWh.

The fix component for booking the capacity into the underground storage RC(ds) quantifies the fix costs, generated by booking the capacity into the underground storage for a complete storage cycle.

The volume component for natural gas injection into the underground storage I (ds) quantifies the variable costs generated by natural gas taking over, measurement, treatment and circulation through the surface facilities and put into the underground storage.

The volume component for natural gas extraction from the underground storage E (ds) quantifies the costs generated by natural gas extraction from the underground storage, its

treatment, circulation and measurement through surface facilities and its deliver to transmission operator and/or beneficiary.

At July 1st 2011, according to the tariff methodology for the transmission activity, the fifth year of the second regulatory period 2007-2012 began. During 2011, the transmission tariff was not changed so the provisions of ANRE Order no. 18/24.06.2010 concerning the extension of the validity period of ANRE Order no. 76/2009 were maintained.

The pricing system for transmission comprises a set of *revenue cap* tariffs, establishing overall regulated revenue covering the overall costs of one year of the regulated period.

The tariff for transmission through the national transmission system has a two-part structure as follows:

$$T_t = RC_t + V_t$$

where:

T_t – transmission tariff

RC_t – fixed component for booking of capacity in the transmission system, expressed in lei / MWh

V_t – volume-related component for the use of the transmission system, expressed in lei /MWh.

The fixed component for the booking of capacity in the transmission system (RC_t) covers fixed costs, related to the development of the transmission system capacity. The volume-related component for the use of the transmission system (V_t) covers the costs generated by the use of the system, including the costs generated by the performance of services ancillary to the use of the system.

For the second regulatory period, until the “entry-exit” pricing system shall be introduced, the tariff for the transmission through the national transmission system is unique and has the same binomial structure as above.

Afterwards the transmission activity shall contain a set of “entry-exit” tariffs, established for the delimitation points at the inlet of the transmission system where the capacity is booked and also at the outlet of the transmission system where the capacity is booked, as well as for using the system. The structure of this kind of tariff shall be as it follows:

$$T(t) = RC(ti) + RC(te) + V(t),$$

where:

$T(t)$ – transmission tariff;

$RC(ti)$ - fixed component for booking of capacity in the inlet priced points

$RC(te)$ - fixed component for booking of capacity in the outlet priced points

$V(t)$ - volume-related component for the use of the transmission system

The pricing system for distribution comprises tariffs that are differentiated on categories of customers and homogeneous distribution systems, in relation with the technical characteristics and exploitation regime of each distribution system.

The categories of consumers for which the regulator establishes differentiated distribution tariffs are the following:

B. Final consumers connected to the distribution system

B.1 Annual consumption no more than 23.25 MWh

B.2 Annual consumption between 23.26 MWh and 116.28 MWh

B.3 Annual consumption between 116.29 MWh and 1,162.78 MWh

B.4 Annual consumption between 1,162.79 MWh and 11,627.78 MWh

B.5 Annual consumption between 11,627.79 MWh and 116,277.79 MWh

B.6 Annual consumption more than 116,277.79 MWh

Unitary regulated revenue is established for distribution, covering the unitary costs of one year of the regulated period.

Distribution tariffs are “single-part” kind and quantify fix and variable costs related to the distribution activity. Distribution tariffs apply to the delivered volumes of gas.

The efficiency increase rate of the regulated activity reflects regulator’s estimations with regard to the improvement over time of operators’ economic performance. The X term of the adjusting formula reflects the estimated annual efficiency increase rate and ensures the transfer of economic efficiency raise achieved by each operator towards customers.

The efficiency increase rate of the regulated activity is established in the beginning of each regulatory period, for each regulated activity and for each operator. The rate remains unchanged over the regulatory period.

Economic efficiency returns related to the regulated activity are determined separately for each operator using the methods described below:

- a) Extrapolation of the increase rate of efficiency resulted from the long-term gas sector productivity, plus an elasticity factor reflecting each operator’s specific situation;
- b) Detailed technical analysis of operators’ operation and capital costs, highlighting additional savings that may be achieved by the operator.

When establishing regulated activity’s efficiency increase rate - X, for each operator, the following are considered:

- a) Economic efficiency raise highlighted by the methods presented and generated by the increase in the performance of operator’s management;
- b) Efficiency increase rate of the related industry and national economy;
- c) Full deduction by the operator of economic efficiency raise from investments.

The substantiation of the regulated revenue requires the assessment of operation and capital costs generated by the performance of the regulated activity. From this point of view, the regulator’s methodology aims to ensure the recovery of invested funds, including associated capital costs, prudently accomplished and within an optimal financing structure.

The assessment of the cost of capital and the establishment of the regulated rate of return - RoR, recognized by ANRE for each regulated activity, uses the “weighted average cost of capital” (WACC) methodology. WACC is determined in nominal terms, after the tax on profits, and RoR in real terms, prior to the tax on profit. RoR (real, prior to taxation) was determined as equivalent to WACC (nominal, after taxation) using an equivalent formula, ensuring the equality between invested capital and cash flow (in present values), available for the period of regulated depreciation of tangible and intangible assets, discounted with WACC.

Because the companies performing regulated activities in Romania are not quoted on the stock exchange, WACC is calculated using the information available for other companies used as buyers. These companies are selected from the ones quoted on the international

markets, that perform as main activity a regulated activity and that operate under a regulatory regime similar to the Romanian one.

A “price-cap” mechanisms is applied for calculation of the distribution tariffs and the regulated supply rates.

The value of the distribution services for a user of the distribution system is monthly billed and is determined with the following formula:

$$VT^d = T_d * Q$$

where:

VT^d – total value of the bill, without VAT, representing the distribution service value, in lei ;

T_d – regulated distribution tariff, in lei /MWh

Q – distributed quantity, in MWh.

The value of supply services for a final consumer is monthly billed and is determined with the following formula:

$$VT^f = P_f * Q$$

where:

VT^f – total value of the bill, without VAT, representing the regulated supply service value, in lei ;

Q – supplied quantity, in MWh;

P_f – final regulated price, in lei /MWh.

The regulator is entitled to refuse the operators the recognition of some costs or parts of them, which have not been prudently generated, considering the conditions and information available at the time they were accomplished.

On June 17, 2011 was adopted Government Emergency Ordinance (GEO) no. 53/17.06.2011 for imposition of some emergency measures in natural gas sector. One of the measures was the establishment of **two distinct structures for the natural gas mix import/domestic production**, one for households and heat producers, only for the amount of gas used to produce heat in cogeneration and thermal power plants for district heating, and another one for the other natural gas consumers of regulated market.

Due to the new structure of the mix import/domestic production natural gas, in the period July 2011-March 2012, the final regulated prices for households and heat producers, only for the amount of gas used to produce heat in cogeneration and thermal power plants for district heating stayed unchanged.

According to the provisions of the GEO no. 53/17.06.2011, ANRE issued orders no. **29/26.06.2011** and **37/21.09.2011** for modification of ANRE’s orders for setting the distribution regulated tariffs and approving the natural gas regulated supply prices. The final regulated prices for non-households were increased in average with of 18%, excepting the heat producers, only for the amount of gas used to produce heat in cogeneration and thermal power plants for district heating. The final regulated prices for households and heat producers, only for the amount of gas used to produce heat in cogeneration and thermal power plants for district heating, were kept unchanged, at the level of those approved on July 1, 2009.

Transmission and distribution tariffs for the most relevant categories of customers are as follows:

| Cons. | I4-1,I4-2 (annual consumption 418.6 TJ) | I1 (annual consumption 418.6 GJ) | D3 (annual consumption 83.7 GJ) | D3, D3b (Typical household – heating, food and warm water) |
|------------------------|---|---|---------------------------------------|---|
| Tariff | Euro /GJ | Euro /GJ | Euro /GJ | Euro /GJ |
| Transmission tariff | 0.53 | 0.53 | 0.53 | 0.53 |
| Distribution tariff | 1.37 | 1.67 | 1.68 | 1.68 |

4.1.4. Cross-border issues

Steps to implement the provisions of Regulation (EC) no. 1775/2005 on conditions for access to the natural gas transmission networks, namely Regulation (EC) no. 715/2009:

Romanian – Bulgarian relations

The Romanian side has initiated a dialogue with the Bulgarian side and during 2009 - 2011 took place several meetings at both expert and ministerial level.

After analyzing the legal situation of the Bulgarian Convention, a conclusion has been reached, also confirmed by the bilateral technical meeting at expert level, between the European Commission and the Romanian Government, held in May 2011 in Brussels, that this agreement ceases to have legal effect and therefore there is no need to take the necessary steps to amend its provisions.

Regarding the commercial contract between the Romanian transmission system operator - Transgaz and the Bulgarian operator - Bulgargaz, into force until the end of 2016, was considered that in order to comply with EU legislation, it's renegotiation is required.

Following the meeting with the Commission, the Minister of Economy, Trade and Business Environment of Romania launched the invitation to his Bulgarian counterpart to renegotiate the commercial contract of natural gas transit between Transgaz and the Bulgarian partner, invitation, accepted by the Bulgarian partner.

Regarding the issue of network access tariffs, in order to comply with the EU provisions, a pricing methodology will be established, that is approved by ANRE.

Since July 2011, Transgaz and ANRE started to take the steps necessary to establish the transmission tariffs, namely the capacity allocation mechanisms on the international pipeline for gas supply to Bulgaria.

Romanian-Russian relations

Romanian authorities have taken the steps at internal level, to prepare the negotiation process, identifying the clauses subject to renegotiation and obtaining Romanian government's mandate in compliance with specific procedures established by the national legislation in the field of negotiating international agreements with other states. Accordingly, the Government approved the initiation of negotiations with Russia to amend two existing conventions.

As a result, Romania took the necessary steps to begin the renegotiation of the agreements, to which reference was made, with the Russian Federation and to create the conditions for renegotiation of the commercial contracts:

- *External Contract from 03.06.1987 for the transit of Russian natural gas over Romanian territory to Turkey, Greece and other countries, concluded for the period 1987-2011 according to the 1986 Convention and*
- *External Contract from 24.09.1997 for the transit of Russian natural gas over Romanian territory to third countries, which establishes the transit volumes by the year 2023 according to the 1986 Convention.*

By Government Decision no. 1278/27.12.2011 Romania denounced the two conventions. Negotiations for new conventions will continue in 2012.

Concerning the regulator's approval and monitoring of TSO investments plans, we mention that those attributions are provided by Law no. 123/2012, regarding electricity and natural gas.

4.1.5. Compliance, dispute settlement

In 2011, ANRE received from natural and legal persons **601 complaints** regarding services provided by the operators in the natural gas sector. The complaints were sent directly to ANRE or were directed to ANRE from other public institutions.

All the complaints were answered within the legal period of time and accordingly to the legal provisions into force, informing the solicitors and, if necessary, the public institutions that directed the complaints to ANRE.

For the complaints that required more checking, control actions were asked, through the ANRE's Direction for Monitoring and Territorial Control. The way to solve these petitions was different depending on the issues addressed: from written answers including clarifications, explanations and references to legislation, checks on the spot to direct talks with the parties.

If the problems referred in the petition concerning infringement of legal provisions by the operators have proved justified, ANRE has sent letters warning them that established measures of compliance to legal provisions and / or were taken legal measures for the implementation of sanctions.

The main issues raised by the complaints in the natural gas sector are presented in the *table* below.

| No | Type of complaint | Total | [%] |
|-----------|--------------------------------|--------------|------------|
| 1 | Natural gas invoice | 105 | 17.47 |
| 2 | Access agreement | 64 | 10.65 |
| 3 | Contracting | 59 | 9.82 |
| 4 | Equipment use | 59 | 9.82 |
| 5 | Contracts for connection works | 49 | 8.15 |

Dispute settlement

In natural gas sector, ANRE:

- solves disputes concerning the refusal of access to the NTS natural gas / distribution systems, according to President ANRGN Decision no. 1345/2004;
- mediates pre-contractual disputes in the natural gas sector, in the regulated segment (according to Decision No ANRGN President. 400/2005), respectively, in the competitive segment (according to Decision No ANRGN President. 461/2006).

In 2011 there were no requests for mediation.

During the analyzed period ANRE performed 384 control actions in the gas sector. Subsequently were issued records of findings and penalties pertaining in regards to contraventions and fines worth lei 2,017,000 were enforced.

4.2. Promoting competition

4.2.1. Natural gas wholesale market

Natural gas consumption has remained constant in recent years, at the level of 13-14 billion cubic meters, an increase of about 3% in 2011 compared to 2010. Distribution of consumption for the two categories, household and non-household and that for subdivided non-household consumers remained also constant in recent years.

Gas market in Romania is made up of a competitive segment, which includes natural gas trade between suppliers and between suppliers and customers and the **regulated segment**, which includes natural monopoly activities conducted based on framework contracts regulated supply.

In accordance with the proposals of the provisions for transposition into national law of Directive 73/2009/CE:

- competitive wholesale gas market will operate on the basis of: a) bilateral contracts between operators of natural gas sector, b) centralized trading markets, managed by the operator of the natural gas market and the balancing market operator, as appropriate; c) other transactions or contracts.
- relevant data such as duration, delivery and settlement rules, the quantity, time of execution and the transaction prices and means of identifying the wholesale customer, on all transactions in gas supply contracts and gas derivatives natural agreements with wholesale customers and transmission system operators as well as storage and LNG operators providers are to be stored for at least 5 years and be made available to ANRE, the Competition Council, the European Commission and other competent national authorities, on request. Data may be published with the confidentiality of commercially sensitive information.

In 2011, total natural gas consumption was 150,810,050.612 MWh, of which households consumption was 31,203,602.279 MWh (20.69%), non-household consumption was 106,725,863.339 MWh (70.78%) and 12,880,584.994 MWh represented own consumption (8.54%).

In 2011, the total number of natural gas consumers was 3,122,269, including 179,947 non-household consumers (5.76%) and 2,942,322 households (94.24%).

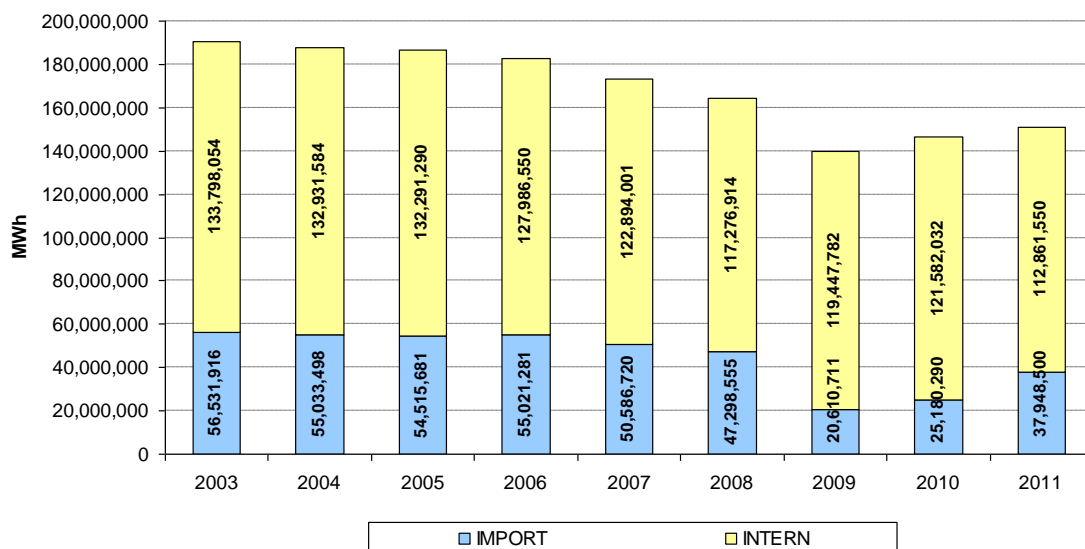
Consumption is covered from both domestic production and imports. In 2011, domestic production of natural gas was 116,974,413.012 MWh and 34,199,233.770 MWh import.

The number of participants on the gas market in Romania has increased steadily as the market was liberalized, especially regarding the distribution and supply of natural gas, including by the end of 2011:

- a National Transmission System Operator - SNTGN Transgaz Medias
- 7 Producers: Romgaz, OMV Petrom Ploiesti Amromco, Amromco Energy New York, Aurelian Oil & Gas Drilling Oil and Lotus Probes
- 3 operators of underground storage: Romgaz Depomureş, Amgaz
- 40 gas distribution companies, the largest being Distrigaz Sud and E.ON Gas Distribution Networks
- 40 suppliers operating in the competitive segment of the natural gas market

For the domestic production of natural gas in 2011, the fall in consumption represented 74.84% of total sources. The top two producers (Romgaz and OMV Petrom) covered 97.14% of this source.

Imports entering consumption in 2011, the current import and extracted from storage, the difference represented 25.16%. The top four importers - internal suppliers - with a market share of imports over 11% each, achieved 69.44%.



- *graphic figures represent domestic production - current and extracted from storage, import - current and extracted from storage*

Figure 4.1

National average of the calorific power is 10.607 kWh / m³.

The market share of the main three suppliers based on the volume of transactions on the wholesale market is 82.07% and the retail market is 61.61%.

The situation of the companies providing natural gas to the most relevant consumers categories is the following:

| Consumers | Suppliers | No. of companies with over 5% share | Share of top 3 suppliers (%) |
|------------------------------|------------------|--|-------------------------------------|
| Energy and/or heat producers | | 4 | 85.82 |
| Industrial consumers | | 4 | 89.72 |
| Commercial consumers | | 3 | 83.88 |
| Household consumers | | 2 | 92.42 |

The natural gas market of Romania is a national one.

In order to ensure an appropriate basis for a fair and non-discriminatory allocation of natural gas from domestic production and import, the Market Operator has been set up within the National Gas Dispatching Centre located in Bucharest as part of SNTGN Transgaz SA Mediaş.

In this respect, the current Market Operator:

- Until the 31-st of June 2011, has established on a monthly basis the domestic production - import quota for all licensed suppliers/distributors, as well as for eligible customers; starting 1-st of July according to the common Order MECMA / ANRE / ANRM no. 1.284/27/160 of June 22, 2011, establishes monthly quantities of natural gas share of current domestic production / storage and natural gas currently imported / storage in gas mixture, only for non-households of natural gas, except heat producers for the amount of natural gas used to heat production in CHP plants and heating plants intended for household consumption;
- monitors on a daily basis the domestic/imported gas purchases/consumption;
- draws up on a monthly basis the report on gas purchases from domestic production and import of each Romanian gas operator and of each eligible customer, and sends them the import/total consumption quota for gas invoicing purposes.

From the 1-st of July 2011 in accordance with Art. 1 para. (3), lit. a) the common Order MECMA / ANRE / ANRM no. 1.284/27/160 of 22 June 2011 concerning the exploitation of natural gas quantities domestically and measures for strengthening contractual discipline, gas structure mixture for households and producers of heat, only for the amount of natural gas used to heat production in CHP plants and heating plants intended for household consumption, gas mixture structure is determined by the Regulatory Authority (ANRE).

The access to underground storages is regulated (ANRGN decision no. 824/2004).

The structure of the regulated tariffs for gas underground storage comprises two elements:

- 1 - a fixed component for capacity booking [Lei/ MWh/full storage cycle] and
- 2 - a volume-related component for injection/withdrawal of gas [Lei/MWh].

The average underground storage tariff in 2011 was 11.17 lei/MWh.

**Evolution of the average storage tariffs
2005-2011**

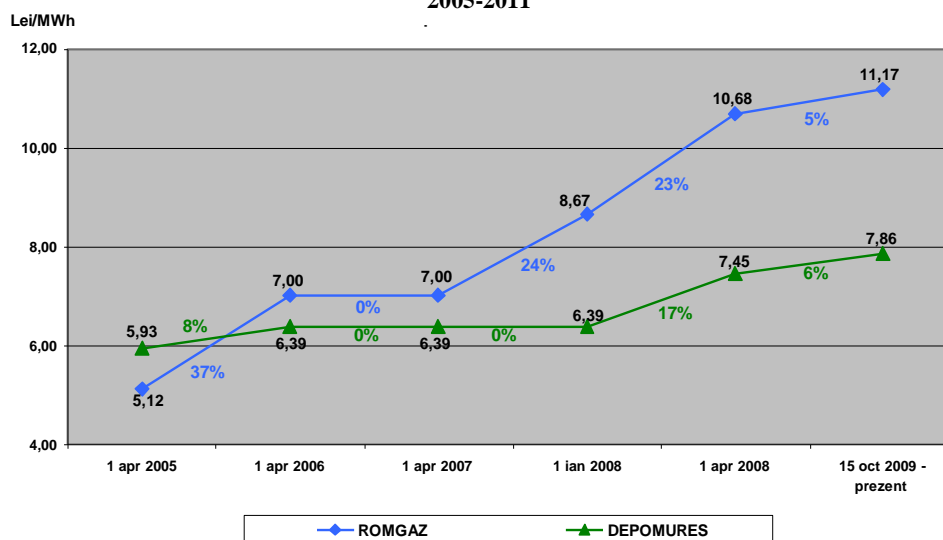


Figure 4.2

In order to fulfil the obligations related to the safe operation of the underground gas storages, the storage operators have to establish and maintain an unitary and flexible structure for dispatching and for the process monitoring, for the communication of data and specific parameters, as well as for the prompt intervention where needed.

With a view at guaranteeing the security of supply during the cold season, licensed suppliers have the obligation to maintain in underground storages a minimum stock of natural gas until the end of the annually injection activity.

The licensed storage operators have the obligation to guarantee the non-discriminatory access to underground storages of the gas suppliers, with priority to those with public service obligations.

Gas storage is regulated on the basis of **The Regulation on the programming, functioning and dispatching of gas underground storages** (ANRGN decision no.1351/2004). This Regulation establishes technical, technological and commercial rules and requirements, aimed at a transparent, objective and non-discriminatory gas storage activity.

The programming of the storage activity is made by the storage operators based on the contracts signed by them with gas storage beneficiaries.

For each year of storage, the deadline for the beginning of the programming of gas injection/withdrawal in/from underground storages is the date when the final list for the reallocation of available capacities, as stipulated in the Regulation on access to gas underground storages, is published. When establishing the storage programmes for each underground storage facility and for each storage cycle, month, day and hour, the storage operators take into consideration the following elements:

1. observance of the priority order according to the Regulation on access;
2. technological regimes as agreed with the transmission system operator for each storage, for both injection and withdrawal;
3. optimum technological regimes for the NGT, for both injection and withdrawal.

Storage operators publish on their own Internet websites the relevant public information needed, including:

- Initial list of available capacities for gas storage for the annual injection cycle
- Register of the applications for access to the gas underground storages
- Initial list of storage capacities allocation
- Initial list of storage capacities reallocation
- Final list of storage capacities allocation
- Final list of storage capacities reallocation
- List of available capacities for reallocation
- Weekly report concerning the capacity of gas underground storages.

4.2.2. Natural gas retail market

In 2011 the gas consumption in Romania, structured on customers' categories was:

| Customer category | Group of customers | Share in total consumption |
|----------------------|---|----------------------------|
| TOTAL, out of which: | | 100 % |
| NON-HOUSEHOLDS | Customers who did not choose to change their supplier | 16.57 % |
| | Eligible customers | 60.81 % |
| HOUSEHOLDS | Customers who did not choose to change their supplier | 22.60 % |
| | Eligible customers | 0.02 % |

The main suppliers and their shares in total sources of gas are presented below:

| | |
|--------------------------------|--------|
| Romgaz intern | 38.46% |
| OMV Petrom | 34.24% |
| Romgaz import | 6.75% |
| GDF Suez Energy Romania | 4.43% |
| Wice Romania SRL | 3.53% |
| E.ON Energie Romania | 2.76% |
| Interagro | 2.51% |
| Elcen Buc. | 1.85% |
| Amromco Ploiesti | 1.49% |
| OMV Petrom Gas | 1.34% |
| Conef Gaz | 0.68% |
| Arelco Distributie | 0.60% |
| Azomures | 0.43% |
| Amromco New York | 0.36% |
| Aurelian Oil&Gas | 0.22% |
| Tinmar | 0.14% |
| EGL Gas& Power | 0.12% |
| Foraj Sonde | 0.06% |
| Alpha Metal | 0.03% |
| Lotus Petrol (former Toreador) | 0.02% |

7 companies perform the activities of production and supply: Romgaz, OMV Petrom, Amromco Ploiești, Amromco Energy New York, Aurelian Oil&Gas, Lotus Petrol (ex-Toreador) and Foraj Sonde.

The total consumption in 2011 of the main final consumers were:

| Categories of consumers | Consumption (MWh) |
|---------------------------------|------------------------|
| Household | 31,203,602.279 |
| Other non-household | 5,976,883.762 |
| Commercial | 10,755,996.738 |
| Power and/or thermal generation | 35,254,649.441 |
| Other industrial | 24,806,288.146 |
| Chemical industry | 29,932,045.252 |
| TOTAL | 137,929,465.618 |

On the **regulated market**, in 2011, the consumers on the regulated supply market segment were served by 42 suppliers, the total number of these consumers was **3,120,216**, and the quantity of gas supplied to them amounted to **54,024.3 GWh**. The market shares of the three main suppliers are listed below:

| <i>Supplier</i> | <i>Market share (%)</i> |
|-------------------------|-------------------------|
| GDF SUEZ Energy Romania | 50.07 |
| E.On Gas Romania | 41.05 |
| Congaz | 1.79 |

On the **competitive market** 40 suppliers have activated. In the table below are presented the suppliers which supply eligible consumers, whose market shares are more than 5%; two of them are also gas producers (S.C. Petrom S.A. and SNTGN Romgaz S.A.). The total consumption was **83,905.1 GWh**.

| <i>Supplier</i> | <i>Market share (%)</i> |
|-------------------------|-------------------------|
| Petrom Gas | 24.68 |
| Romgaz | 21.39 |
| Interagro | 21.35 |
| GDF SUEZ Energy Romania | 10.13 |
| E.On Energie Romania | 5.28 |

Romania's gas market was opened on the 1-st of July, 2007, so that all gas consumers have the opportunity to choose their own supplier.

At the end of 2011, there were 2053 eligible customers on the natural gas free market, with a consumption amount to an effective rate of 55.64% market opening.

In 2011, from the consumer group directly connected to the national transmission system about 95.7% of consumers (in terms of the amount of energy consumed) have chosen to be part of a negotiated supply contract.

In 2011, the share of non-household consumers connected to the distribution system that have chosen to be part of a negotiated supply contract was about 44.56% of all non-household consumers (in terms of the amount of energy consumed).

Proposals for taking into national law the provisions of Directive 73/2009/CE stipulate that if the right to eligibility has been exercised, end customers have no right to return to regulated supply. The final prices applied to the most relevant categories of customers are presented below:

| Cons | I4 – annual consumption 418.6 TJ | I1 – annual consumption 418.6 GJ | D3 – annual consumption 8.37 GJ | Typical household |
|--------------------------------|-------------------------------------|-------------------------------------|------------------------------------|-------------------|
| | Euro /GJ | Euro /GJ | Euro /GJ | Euro /GJ |
| Tariffs (excluding VAT) | 6.10 | 6.57 | 6.30 | 6.28 |
| Transmission Tariff | 0.53 | 0.53 | 0.53 | 0.53 |
| Distribution Tariff | 1.37 | 1.67 | 1.68 | 1.68 |

4.2.3. Recommendations on supply prices

A copy of the annual report that ANRE is preparing for CEER and the European Commission is sent to the Competition Council.

4.2.4. Carry out investigations and imposing measures to promote effective competition

Institution authorized to conduct investigations of violation of competition law is the Competition Council. ANRE is required to notify the Competition Council on abuse of dominant market position and the violation of legal provisions on competition whenever there is a non-compliance with regulations on competition and transparency.

4.3. Consumer protection

Gas Law no. 351/2004, with subsequent amendments require from licensees storage, transmission, distribution and supply of natural gas following obligations:

- a) to ensure the security and continuity of supply, according to law;
- b) to deliver services based on energy efficiency and environmental protection;
- c) to be in compliance with specific performance standards required;
- d) to ensure third party access systems, in accordance with art. 61-63.

In addition to the legal provisions mentioned above, these requirements have been specified in terms of Framework-conditions for a valid licence of distribution or natural gas supply, under the conditions of the Framework-conditions functioning authorization objectives / natural gas distribution systems (Decision ANRGN no. 1271/2004), and the license conditions for gas transport (ANRGN Decision no. 1362/2006).

Also, Law no. 346/2007 on measures to ensure security of gas supply, transposing into national legislation the provisions of Directive 2004/67/EC, imposed on all license holders in natural gas, and natural gas producers the following obligations:

- operation of facilities and equipment used in the industry in terms of protecting the integrity of the person and property, as well as in terms of environmental protection and energy efficiency
- to ensure safety and continuity of supply, during the cold season, to the following groups of users:
 - households
 - institutions providing medical services and schools and social institutions that provide care for children, the elderly or people with varying degrees of disability

-
- heat supply plants that are unable to use alternative fuel
 - public institutions at central and local level, cultural and religious institutions, public interest NGOs.

For these consumers, the Law provides that in emergency situations, suppliers and domestic producers of natural gas are required to dismiss all gas quantities in order to ensure their use. Also, these types of consumers, persons receiving social assistance and those who have disabilities, will not be interrupted gas supply by providers in emergency situations and during the cold season, ie from May October to March.

Mechanisms for calculating the final regulated prices are "price-cap".

The regulator has the right to refuse recognition of costs or parts thereof to operators, that have not been done in a prudent manner, having regard to the conditions and information available at the time they were made.

Romania has committed by the Memorandum of Understanding signed with the European Commission and the Letter of Intent signed on 14.09.2011 with the International Monetary Fund (section 26), part of a preventive Agreement of Understanding signed with the IMF and the European Commission (Precautionary Stand-By Arrangement for Romania) to gradually eliminate regulated prices for non-households and households in the gas sector during 2013-2018.

Alongside, the European Commission continued the infringement process started against Romania in the summer of 2009 for breach of Article 3, par. (1) in conjunction with Article , par.(2) of Directive 2009/73/EC concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC. Under this action the Commission considers that the application of the mechanism of regulated prices for gas supply does not comply with the principle of proportionality in accordance with the Court of Justice of the European Union.

To comply with the provisions of Community law, ANRE and MECMA proposed a draft memorandum which was approved on 24.05.2011 by the Government, which proposed, inter alia contracting and completing a study during 2011 to assess the impact of phasing out regulated prices to end customers and setting up a road-map for their gradual removal.

Since the above actions converge to the same requirements on the gradual removal of regulated prices to final consumers, having a significant economic impact, based on the documents above, ANRE has contracted the impact study which was completed in December 2011.

Given the low level of affordability for households, the financial burden caused by price increases to households as result of the convergence of domestic gas prices to import gas prices and the phasing out of regulated prices, the Romanian authorities agreed to propose a scenario aiming to phase out regulated prices until:

- 31 December 2014 for non-households (if there is a significant difference between the domestic gas price and European import price which could jeopardize market stability the deadline is extended to December 31, 2015) and
- 31 December 2018 for households.

However, the new Electricity and Gas Law will define the term of "*vulnerable customers*" regarding the households which, for reasons of age, health or low income are at risk of social exclusion, including financial reasons. Social protection measures and eligibility criteria are to be established by further regulations.

Regarding the transparency of contractual terms, on the regulated market, contracts are concluded with the provisions of framework contracts, developed and approved by the regulator, published in the Official Gazette, as follows:

- ANRE Order no.77/2009 approving regulated framework contracts for the supply of natural gas;
- Decision of ANRGN no. 183/2005 approving the Framework gas distribution, republished and ANRGN Decision no. 309/2005 approving the general terms and conditions of natural gas distribution services, republished,
- Framework contract for natural gas transmission approved as Annex no. 1 to ANRE Order no. 54/2007 regarding the approval of the National System Network Code for natural gas transmission, as amended and supplemented;
- Decision of ANRGN no. 480/2004 approving the Framework underground gas storage, as amended and supplemented;
- ANRE Order no. 74/2009 approving the Regulation on the establishment of legal relations between suppliers and consumers of natural gas.

These regulations mainly include provisions regarding: regulated final price, length of contract, minimum clauses on the rights and obligations of the parties, contractual liability, conditions of contract.

4.4. Security of supply

In 2011, total natural gas consumption was about 150,810,050.612 MWh, of which 31,203,602.279 MWh was household consumption (20.69%). 116,974,413.012 MWh was gas domestic production who entered into consumption in 2011, and 34,199,233.770 MWh was import.

In 2011, total number of natural gas consumers was 3,122,269, of which 2,942,322 households.

The forecast regarding developments in production and consumption of natural gas for 2011-2020 can be found in the ten-year development plan for gas networks developed by the European Network of TSO's for Gas -ENTSO-G and published on the website www.entsog.eu.

Regarding the security of natural gas supply, in 2007 passed the Law no. 346/2007 on measures to ensure safety in natural gas supply, which transposes into national law the provisions of the 2004/67/EC Directive. The purpose of the law is to ensure an adequate level of safety in natural gas supply through transparent measures, non discriminatory and consistent with the existence of a competitive market for natural gas.

In this respect, the law sets out the role and the responsibilities of the authorities and operators from the domestic natural gas market and the special measures which are required to ensure an adequate level of safety in natural gas supply. A Coordination Commission was established with the aim to develop annually an action plan for emergencies cases and to approve and monitor the necessary measures to ensure safety in natural gas supply.

National legislation will be adapted during 2012 to the requirements of Regulation 994/2010/CE concerning measures to safeguard security of gas supply and repealing Directive 2004/67/EC. Competent authority in applying the Regulation is the competent ministry.

In Romania there are eight underground storage facilities, from which 7 were functional in 2011, Nadeş underground storage reporting no activity in 2011. The total capacity of the 8 storages was 3.135 billion cubic meters, functional capacity for 2011 was 3.06 billion cm. Their present situation is as follows:

| No. | Storage facility | Capacity (billion cubic meters) |
|-----|------------------|---------------------------------|
| 1. | Bălăceanca | 50 |
| 2. | Bîlciureşti | 1.310 |
| 3. | Cetatea de Baltă | 200 |
| 4. | Gherceşti | 150 |
| 5. | Sărmăşel | 800 |
| 6. | Târgu Mureş | 300 |
| 7. | Urziceni | 250 |
| 8. | Nadeş | 75 |

The stock level of natural gas in the underground storage facilities during april –october 2011 is shown in *figure 4.3*:

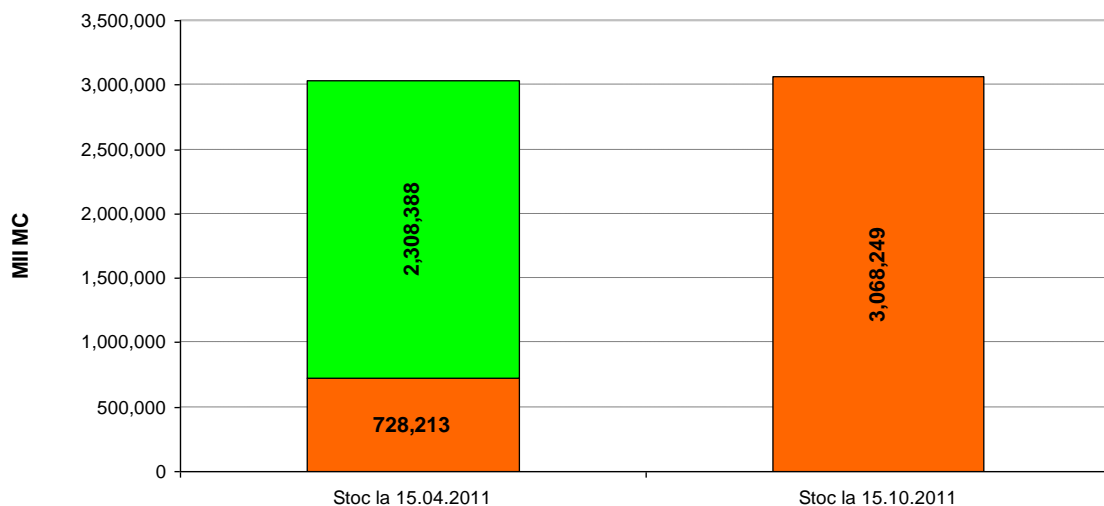


Figure 4.3

Natural gas imports in Romania are currently performed by:

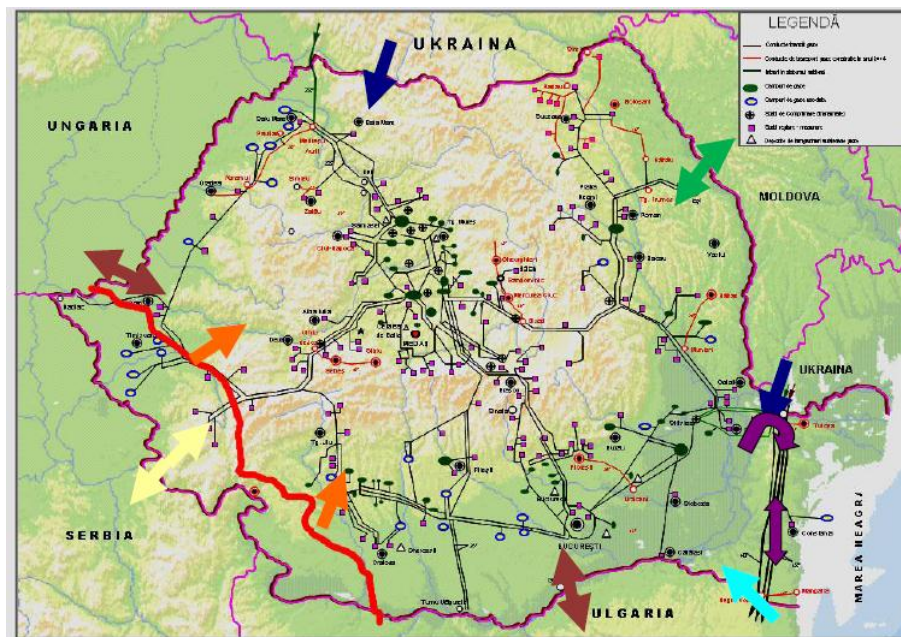
1. Orlovka - SMG Isaccea gas import pipeline. Technical parameters of the pipeline are: transport capacity: 8.7 billion cm / year design pressure: 55 bar and nominal diameter: 1000 mm.

2. Interconnection pipeline gas transportation system from Ukraine on Tekovo - Golden Medieşu gas measuring station. Technical parameters of the pipeline are: transport capacity: 4.0 billion cm / year design pressure: 70 bar nominal diameter 700 mm.

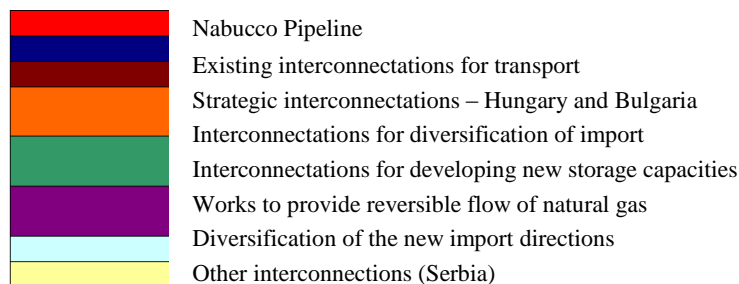
3. Interconnection pipeline gas transmission system from Hungary on Szeged - Arad. The pipeline was completed in 2010. Pipeline technical parameters are: initial transport capacity: 1.7 billion cm / year - 200 000 m³ / h maximum carrying capacity: 4.4 billion cm / year - 500 000 m³ / h, diameter 700 mm , design pressure: 63 bar operating pressure: 40-60 bar pressure

minimum guaranteed - 40 bar total length: 109 km, measurement control station (SRM) located in the area surrounding village Horia (North-East of Arad).

Existing and future direction of the National Transmission System interconnection with natural gas transportation systems in neighboring countries.



Legend:



Source: SNTGN Transgaz S.A

Figure 4.4

ANRE provides the necessary regulatory framework to promote investment by issuing permits and licenses, issuing and approving methodologies for pricing and tariffs, trade and technical regulations, developing rules for connection and network access.

Thus, in the natural gas sector, the regulator approves for each regulatory period for which are set rates and regulated prices, investment programs of licensed operators in order to recognize the costs and to integrate them in approved tariffs and prices.

In the context of achieving the objective of security of supply and the provisions of Directive 2004/67/EC to ensure the consumption needs of all categories of consumers and eliminate malfunctions occurred in the natural gas market in the winter 2005-2006, he was promoted to the concept of **interruptible consumer**. Interruptible consumers contribute decisively to maintaining safe operation of the National Gas Transmission and Distribution systems by accepting reduce consumption to a stop.

Regulatory authority developed and approved (ANRGN Decision no. 1000/2006) in accordance with the Gas Law no. 351/2004, with subsequent amendments and Directive 2003/55/EC, *Regulation laying down the conditions and procedure for the appointment by the*

regulator of the supplier of last resort, to ensure the security and continuity of natural gas supply. The Regulation applies to suppliers license holders, natural gas distribution license holders of and natural gas consumers.

Supplier of last resort is the activity of natural gas supply held by a licensee designated or selected under the Regulations, part of a negotiated natural gas supply contract, of which the current provider is facing the situation of having withdrawn its supply license by the regulatory authority.

Mandatory supply of last resort represents the supply of natural gas by a gas supply licensee, appointed under this Regulation, with a view to supplying gas to customers falling into the following categories:

- Household customers;
- Hospitals, schools, kindergartens;
- Public institutions;
- Non-household customers, other than the ones above-mentioned, with a consumption of up to 12,400 cm³/year/consumption site.

The mandatory supply of last resort shall not prevail over current contractual obligations of the appointed supplier of last resort.

Voluntary supply of last resort represents the supply of natural gas by a gas supply licensee, selected under this Regulation, with a view to supplying gas to non-household customers with a consumption of above 12,401 cm³/year/consumption site.

Public service obligations are properly applied for the mandatory last resort supply.

Distribution operators shall keep track of all customers switching in their distribution area and submit to regulatory authority, on a quarterly basis, a report in this respect, drafted in compliance with the template included in the Regulation. The data included in the report is public information.

In 2011, following the disposition of the Bucharest Tribunal, Seventh Commercial Division, to open bankruptcy proceedings against natural gas supplier SC AURAPLAST Lt,d by ANRE's Decision no. 2532/11.10.2011, SC GDF SUEZ Energy Romania S.A. was designated supplier of last resort for a period of 3 months for the Crizbav village, Comune Crizbav, Brasov.

In the context of ensuring the volumes of gas needed to fulfil the public service obligation, in accordance with the energy programme for the cold season (October current year – March the following year), suppliers performing regulated supply shall store in underground storages, until the end of the injection cycle, a minimum stock of gas.

Considering the methodology for determining the annual minimum stock level for natural gas supply license holders and gas stock level for the National transmission system operator of natural gas, approved by ANRE Order no. 91/2009, the minimum gas stock licensees for natural gas supply is such that is equivalent to at least 25% of total natural gas consumption recorded in the previous extraction cycle (from 1 October to 31 March).

Minimum stock gas thus determined is broken down by the regulated and competitive segment according to the percentage of natural gas consumption growth recorded on each segment of the extraction cycle, from the previous cycle storage to the injection cycle, from

the currently cycle storage to the total increase of natural gas consumption recorded during the same period.

Gas stock level for SNTGN Transgaz Medias, as operator of the national gas transmission system, was established taking into account the necessary quantities of gas to ensure permanent physical balance of the national transmission system, for the following year (broken down on maximum quantities that can be stored by the national Transmission System respectively, amounts required to be stored in underground storages, and their substantiation) and the amount of natural gas pipelines need to be maintained in order to operate the National Transmission system for natural gas, safely.