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## SOME SIGNIFICANT ASPECT OF THE EVOLUTION OF ELECTRICITY AND NATURAL GAS EXCHANGES IN ROMANIA

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### Abstract

*Energy exchanges are institutions of strategic interest at national and regional level. According to the latest policies, the European Union as a whole needs to have strategies, instruments and institutions to ensure the energy security of the whole union, especially in times of crisis, when energy demand exceeds the available supply in some areas. In this respect, the existence of strong stock exchange institutions that allow the trading of electricity and natural gas in professional and transparent conditions becomes an essential condition for any developed economy wishing to join the European Union. The present study analyzes the activity of the Romanian Commodities Exchange on its various trading rings, highlighting the evolution of the energy market in recent years, thus arguing the position of this institution as a leader on the Romanian stock market.*

**Keywords:** *stock exchange, energy, spot market, derivatives, forward, futures*

**JEL Classification:** E44, G15

### Introduction

Energy exchanges have a determining role in the well-functioning of a developed economy, the experience of other European countries, demonstrating that there is a direct proportional relationship between GDP and the number of exchanges in that country. Thus, France has 7 Market Operators, Germany has 7 Market Operators, England has 7 Market Operators, Spain has 5 Market Operators, Holland has 5 Market Operators, etc. In Romania, it can be said that the energy exchanges are still at the beginning, both as volume of trading and in terms of the number and types of products / services offered. At present, there are two market operators in Romania that trade both electricity and natural gas, the Romanian Commodities Exchange and OPCOM. The present study analyzes the activity of the Romanian Commodity Exchange in the energy field.

The Romanian Commodities Exchange - RCE, the oldest Romanian contemporary exchange, with a continuous life of 25 years, is a public interest

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company with a share capital of 8 million lei and 98 shareholders, both public and private institutions. RCE manages a commodity market, according to the provisions of Law no. 357/2005 on commodity exchanges, having several rings (petroleum products, electricity, natural gas, cereals, general merchandise, building materials, CO2 certificates). RCE is a multilateral trading structure regulated and supervised by the Chamber of Commerce and Industry of Romania, which naturally guarantees the market prices (being a transparent market, where the price is naturally formed as a result of the supply and demand). Based on the transactions made on the specialised rings, RCE publishes on [www.brm.ro](http://www.brm.ro) the quotations of each traded product, according to the art.1 paragraph (6) of the Law 357/2005 which stipulates „The commodity exchanges are broadcast in Romania and in other countries information on the market price for commodities and their derivatives”. The Romanian Commodities Exchange is a multilateral trading structure, being a transparent market where the price is naturally formed as a result of supply and demand and is regulated and supervised by, the Financial Supervisory Authority – ASF, the National Authority for Energy Regulation – ANRE, the Chamber of Commerce and Industry of Romania - CCIR and operates within the framework of the public procurement legislation transposing the provisions of the European Directive 2014/24 / EU, Energy Law no. 123/2012, Law 357/2005 on stock exchanges and legislation on capital markets. RCE is the only institution in Romania that currently holds a centralized license for the natural gas market, a commodity market license and an interim capital market license and is in the process of obtaining a market license for trading financial instruments for goods (mainly in the energy field). Last but not least, it has to be mentioned that in 2015 the Agency for the Cooperation of Energy Regulators (ACER) accredited RCE as RRM (Registered Reporting Mechanisms).

### **Research methodology, data, results and discussions**

#### **• *New Public Procurement Legislation***

The RCE system is fully operational and operates under the new public procurement legislation, with procurement procedures being initiated immediately. The new public procurement legislation confirms the recognition of the legality of the trading of products through commodity exchanges, taking over the provisions of European Directive 2014/24 / EU, which states in recital (50), fourth paragraph, „Finally, a procurement procedure is not useful where products are purchased directly from a commodity market, including commodity trading platforms such as agricultural products, raw materials and energy exchanges, if the regulated and supervised multilateral trading structure

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guarantees in a naturally market prices". Thus, according to art. 104 par. (5) lit. c) Law no. 98/2016 on public procurement, „The contracting authority has the right to apply the negotiated procedure without prior publication of a contract notice for the award of public procurement / works, product or service framework agreements in one of the following cases : (...) (c) for products quoted and purchased on a commodity market such as agricultural products, raw materials and energy exchanges, where the regulated and supervised multilateral trading structure naturally guarantees market prices." similar provision is also found in Law no. (Article 117 (1) (g)) stipulating that „The contracting entity has the right to apply the negotiated procedure without a prior invitation to a competitive bidding procedure for the award of sectoral contracts, only in - one of the following cases: (...) g) for products quoted and purchased on a commodity market such as agricultural products, raw materials and energy exchanges where the regulated and supervised multilateral trading facility guarantees market prices".

Contracting authorities may purchase on the Market at RMP's Availability, through the Negotiation procedure without prior publication or through the Procedure Negotiations without a prior invitation to a competitive bidding procedure, products structured on specialized rings such as utilities - electricity, natural gas; petroleum products - gasoline and / or diesel fuel (both bulk and on the basis of value cards or vouchers), heating fuel, oils, grease, bitumen, lubricants; building materials - sand, gravel, crushed stone, aggregates, ballast, cement, lime, wood, concrete; road maintenance products - salt, bituminous emulsion, asphalt mix; general goods - paper, mineral water, firewood, food-vegetable fruit, meat products, oil, sugar, flour; social services and other specific services - where the value of public procurement contracts / framework agreements for services which have as their object social services and other specific services, provided in Annex no. 2 to the Public Procurement Act, is below the threshold stipulated in Art.7 paragraph 1 letter c) of the Law no. 98/2016, the Contracting Authorities may call on the services of the Romanian Goods Exchange. The acquisition of the respective service can be done on the Auction Market administered by RCE, the procedure which is regulated by Law no. 357/2005 on commodity exchanges.

Also, on the RCE's organized markets, institutions can sell by auction or electronic auction a series of commodities such as, but not limited to, ferrous and non-ferrous waste; fixed assets out of use; stocks without movement; real estate and rental.

Trading on the RCE's specialized rings offers the following advantages to the contracting authorities, obtaining a favorable price, as the price improvement can reach 30% compared to the initial price, improvement

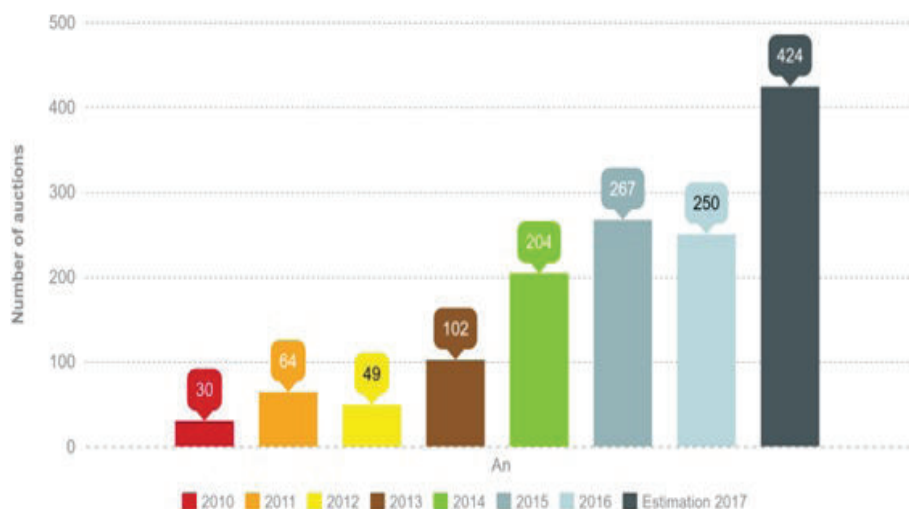
due to the use of the auction, or the electronic auction; the simple and fast procedure that takes place within 7 days of the initiating order being sent to the brm; large number of bidders registered in the market, which ensures a real competitive environment; Securing the stock exchange transaction; the transparency of the public procurement process; free specialist consulting based on our 24-year trading experience; coverage of the territory at national level due to the existence of the 15 stock exchange terminals covering one or more counties so that the regional and local authorities have access to the brm services; zero costs of organizing and conducting procedures for contracting authorities.

Among the contracting authorities using the services of the Romanian Commodities Exchange can be listed: County Councils; mayors; Units subordinated to MAPN; Units subordinated to MAI; Units subordinated to the Ministry of Health; Contracting authorities; Companies with majority state capital; Water companies; Trading companies for roads and bridges. Of these contracting authorities, some of them have approached the RCE services to organize centralized procurement for several structures, among which the ministries may be particularly important.

- *Energy Exchanges (Electricity and Natural Gas)*
- Electricity Exchange

#### **Number of electricity transactions per RCE platform**

*Figure no. 1*



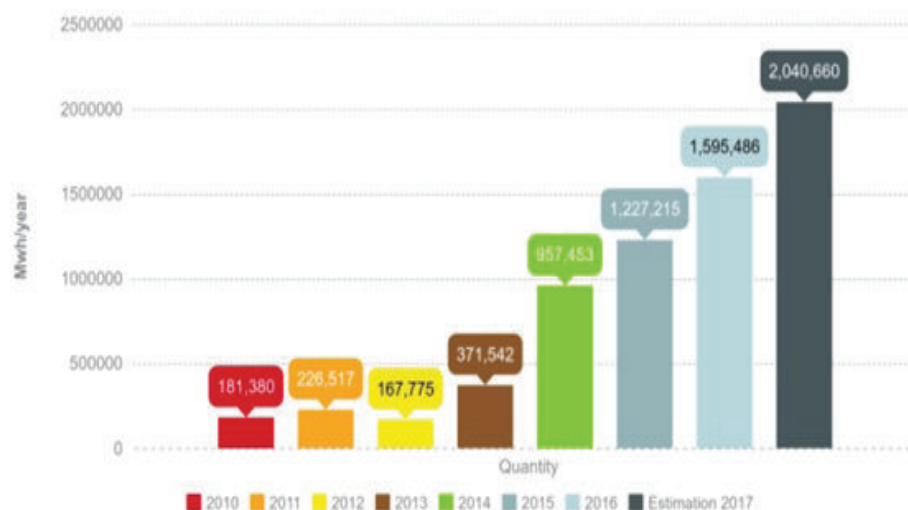
Source: BRM, data interpreted by authors

The Romanian Commodities Exchange also manages the electricity market dedicated to end-users who have access to electricity transactions and have the opportunity to negotiate their supply contracts. At present, there were 2000 participants who traded electricity through 1178 transactions, the volume traded being 5,768,028 (MWh), as shown in the graph above. The electricity market is based on the Law on commodities exchanges no. 357/2005, art. 7 and art. 8, of the Public Procurement Law no. 98/2016, art. 104, par. (5) lit. c) of the Government Decision no. 395/2016 and the Energy Law no. 123/2012, art. 52-63. The direct and immediate advantage of the electricity trading through RCE consists in the considerable reduction of the electricity bills by negotiating the supply price on the electronic platform. The access and trading procedure on the electricity market is transparent and accessible, having three stages:

- Affiliation on the romanian goods burden by concluding a Contract for Co-operation with RCE or Extension of the existing Contract by an Additional Act;
- Initiation of the purchasing process for electricity by sending the Purchase Order (or Sale) and the tender documentation to RCE;
- Termination of the tender by participation in the electronic trading session and conclusion of the new supply contract with the winning bidder at the best price obtained.

#### Evolution of Electricity Transactions on RCE Platform

Figure no. 2



Source: BRM, data interpreted by authors

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- Natural Gas Exchange

In the second half of 2013, following the legalization of the concept of the natural gas market operator defined as a „legal entity that ensures the organization and administration of centralized markets, with the exception of the balancing market, for short, medium and long-term natural gas trading „, The Energy National Regulatory Authority (ANRE) granted a license” for 25 years to the administration of centralized markets for natural gas to two operators in the system, namely the Romanian Commodities Exchange SA ) and OPCOM.

Based on the license, during the three years of operation on the natural gas market, RCE obtained the following transactional figures: over 79 terawats, over 1425 trading sessions. Basically, gas transactions are now overwhelmingly on the market organized by RCE, which has provided the market with an easy-to-use and low cost framework. These costs are clearly reflected in a lower cost of natural gas. Thus, in the year 2017, the market transactions performed by RCE accounted for 69% of the total natural gas market.

**Volume of natural gas traded on RCE platforms**

*Figure no. 3*



*Source: BRM, data interpreted by authors*

Starting with 2014, according to the provisions of the national legislation (Law No. 174/2014), domestic producers have the obligation to trade certain percentages of the produced commodity production and the suppliers to trade certain quantities of natural gas through the organized markets. Thus, gradually, the interest of the market participants increased, obviously amid the legislative imposition, so that, at this moment, the volume

of transactions made on the trading platforms of the Romanian Commodities Exchange is approaching 79 million MWh. By comparison, between October 2013 and October 2017, 170,000 MWh were traded on the markets managed by the competing operator through two transactions.

Transactions on RCE's trading platforms are addressed to both wholesale and retail markets. Almost 94% of the volume was exchanged through wholesale transactions and the remaining share of retail contracts. In parallel with the wholesale market, a retail market, the final consumers that migrated from the regulated market to RCE platforms as a trading medium for the acquisition of natural gas, was developed and crystallized during 253 auctions. Many of these consumers repeat the negotiation of contracts on the RCE platform annually. The range of these consumers is extremely diverse in terms of annual consumption, as well as the scope and scope: state authorities (mayors, ministries, public transport companies), national institutions (gendarmerie, police, special services, financial administration), to military units, airports, educational establishments, public health and cultural institutions.

The public information on traded orders, including accompanying documents (ordinator, contract, sales notes, consumption / delivery forecasts, etc.), transaction prices (2013 -2017 period), bid details, and quotations for standardized products during the first half of 2017 be accessed and downloaded, according to the latest update, directly from the [www.brm.ro](http://www.brm.ro) site.

#### Prices of natural gas traded on RCE in 2017

Figure no. 4



Source: BRM, data interpreted by authors

The evolution of the main indicators is shown in Table 1 below:

**Evolution of the main indicators related to the natural gas exchange  
from the date of authorization of ANRE**

*Table no 1*

Period	Quantity (MWh)	Percentage from National natural gas consumption (%)	No of auctions	No. of participants
2013 (OCT - DEC)	69.000,00	0.2	16	26
2014	3,800,000.00	3.0	140	81
2015	2,800,000.00	1.5	368	222
2016	15,500,000.00	12.7	390	292
2017 (IAN - OCT)	57,436,850.00	69.0	511	340
TOTAL	79,605,850.00		1,425	

*Source: ANRE, BRM, data provided by the authors*

As it was presented above, in an overwhelming proportion, these volumes were the subject of wholesale transactions, with periods of uneven delivery in the first three years, both beginning and end of the interval, but also as the duration (from a few days up to 1 calendar year), so the demand was predominantly for non-standard trading products. With the (successive) changes to the National System of Transport Network Code, namely the imposition of sanctions for imbalances and the lack of chronic liquidity on the market, the option for standard tools has started to grow. In this context, RCE has provided its customers with additional, standardized, even atypical assets, as shown in Table 2 below, which accompanies their request.

**Standardized RCE products traded on the natural gas market**

*Table no. 2*

Standardised products
1. GAZE NATURALE PENTRU ZIUA URMĂTOARE (DAY- AHEAD)
2. GAZE NATURALE PENTRU SAPTAMANA URMĂTOARE
3. GAZE NATURALE - LUNA
4. GAZE NATURALE - TRIMESTRU
5. GAZE NATURALE - SEMESTRUL I
6. GAZE NATURALE - SEMESTRUL II
7. GAZE NATURALE SEZONUL CALD (APRILIE-OCTOMBRIE)
8. GAZE NATURALE SEZONUL RECE (OCTOMBRIE – APRILIE)
9. GAZE NATURALE - AN CALENDARISTIC

*Source: ANRE, BRM, data provided by the authors*

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According to the study we conducted, the market participants also reacted positively to RCE's initiative to associate some of these standard assets with central counterparty clearing services, which will be implemented in the immediate future with the completion of the tests, but also dependent on the date of obtaining the opinion from the regulatory authority and, last but not least, the definition of the Virtual Trading Point in Romania and its implementation by Transgaz. Clearing services will be provided through the partnership agreement signed by RCE last year with Keller CCP, a company authorized by ESMA and operating on the European market.

At the same time, together with the clearing house, long-term forward contracts (up to 1 year) or quarterly and annual cascading at the monthly level are offered, offering reselling and activating the reselling market, which is almost non-existent today.

In parallel, it continues to use non-standard assets on one of the software applications for OTC transactions.

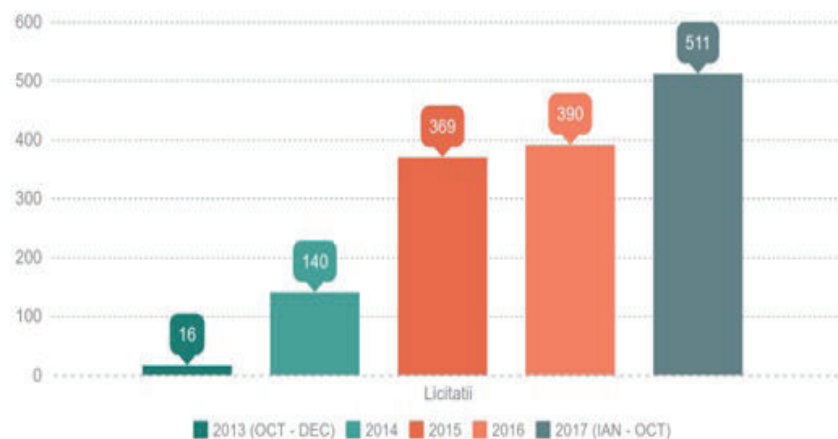
Customers on the wholesale segment are primarily the main producers (OMV Petrom, Romgaz and Amromco), followed by 66 suppliers and traders located throughout Romania (the largest market share being disputed by the multinationals E.ON and ENGIE ), such as importers of the waist, such as WIEE, CONEF and MET.

In parallel, a retail market has developed and crystallized, so the final customers migrated from the regulated market to the eligibility area and have chosen the RCE platforms as a natural gas procurement environment with spectacular results: discounts (compared to the regulated price before auctions) from 5 lei / MWh to 47 lei / MWh, obtained during 253 auctions. Many of these consumers repeat annually contract negotiation on the RCE platform.

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### Number of natural gas auctions on RCE platforms

Figure no. 5

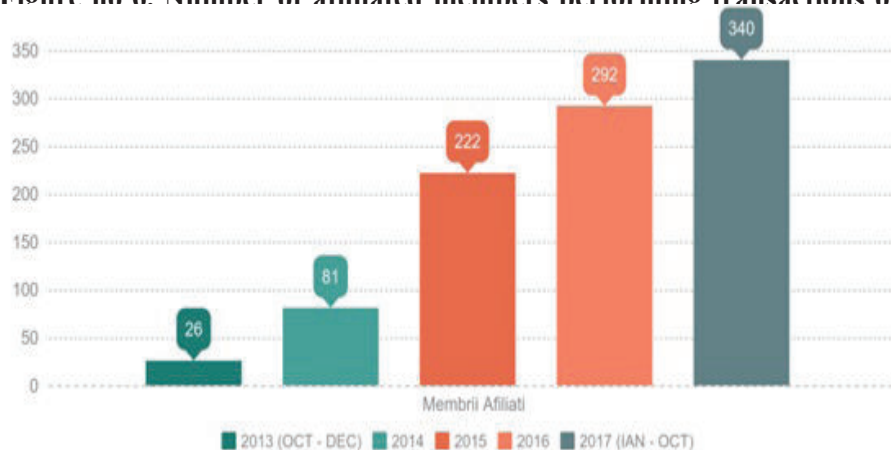


Source: BRM, data interpreted by authors

The range of these clients is extremely diverse, both in terms of the annual consumption level, but also as an object and sphere of activity: from state authorities (prefectures, mayors, ministries), national institutions (gendarmerie, police, financial administration) to military units, airports, educational units, public health and cultural institutions.

Although these figures are not comparable to volumes traded in major European stock exchanges, the evolution is visible. The market has started to react very well to the advantages offered by the stock market competition, especially the legal constraints.

**Figure no 6. Number of affiliated members performing transactions on**



Source: BRM, data interpreted by authors

Moreover, besides the fact that the Romanian Commodities Exchange is accredited as a commodity exchange under Law 357/2005 in 2014, it was accredited as a financial institution by the Financial Supervisory Authority (ASF) and is currently being accredited by and as an MTF (multilateral trading facility). With the completion of this process, starting with the fourth quarter of 2017, we will launch futures for energy products (electricity and natural gas), thus introducing the possibility for the first time in Romania of hedging operations (Risk Management). Last but not least, it should be mentioned that in 2015 ACER was also accredited as RRM (Registered Reporting Mechanisms) with the right to report standard, non-standard contracts and fundamental data, from which approximately 7000 reports, both for orders and transactions registered on RCE platforms (as Organized Market Place), for a number. of 64 participants, as well as for OTC transactions for 50 participants, the latter providing a specialized, dedicated reporting platform that fully meets the requirements of the relevant Community legislation.

• *Energy derivatives (Futures and Forward)*

In order to strengthen its position on the Romanian market and following consultation with the market participants, RCE started in 2014 a series of projects for the development of a range of energy products traded on its own systems by launching Forward and Futures derivatives on natural gas and electricity. Concurrently with the completion of this process, futures for energy-based products (electricity and natural gas) will commence from the fourth quarter of

2017, thus introducing the possibility of Risk Management for the first given in Romania. Clearing services will be provided on the basis of the partnership agreement signed by RCE in 2016 with Keller CCP, licensed by the European Securities and Markets Authority (ESMA) and operating on the European market.

### Future Estimates on RCE Natural Gas Market

Figure no. 7



Source: BRM, data interpreted by authors

At the same time, long-term (up to 1 year), quarterly, and annual contracts are offered together with the one-month cascade clearing house, offering resale and resale opportunities, almost non-existent today. In parallel, the use of non-standard assets on one of the software applications for OTC transactions continues. Also, RCE is currently developing a market segment for forward gas contracts, which are also tools for the advance fixing of the quantity and prices between buyers and sellers on the energy market. Transactions with forward contracts will also be guaranteed and compensated through Keler CCP (owned by the Hungarian central bank), currently the project being in the final stage, ie integrated testing of the trading and clearing systems by RCE and Keler in accordance with the agreement agreed in 2016. Through the two new products mentioned above, RCE will provide the participants in the gas market with the complete package of tools and systems needed both to meet the commercial interests (through the wholesale market) price risk management (through futures and forward contracts).

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From obtaining operator license of centralized natural gas markets (July 2013) and up to the Romanian Commodities Exchange managed to attract a total of 340 affiliated members that made 1,426 auctions, amounting to a total volume of traded natural gas of 79.60 Twh. Basically, most gas transactions take place on the centralized natural gas market organized by the Romanian Commodities Exchange, more precisely about 70% of the national gas consumption estimated for 2017. These results were possible through a continuous effort based on the development new products and services to meet the needs of the market.

### Conclusions

European energy security policies require strong stock market institutions to allow for good trading of electricity and natural gas requirements throughout the European Union so that all Member States can cope with short or medium term energy crises. Faced with European regulations, the Romanian Commodities Exchange is far from being a solid institution subject to the supervision of four national institutions: the Chamber of Commerce and Industry, the National Public Procurement Agency, the Financial Supervisory Authority, the National Regulatory Authority for Energy but also European Energy Regulator and together with energy and financial regulators, EMIR, MIFID II.

### References

1. Baer, J.B. (2008). *Commodity Exchanges and Futures Trading - Principles and Operating Methods*, Baer Press
2. Chatnani, N.N. (2010). *Commodity Markets*, Tata McGraw-Hill Education
3. Hurduzeu, G. (2007). *Piete si burse internationale de valori*, Editura Pro Universitaria
4. Ionescu, G.H. (2005). *Burse de Marfuri si Valori*, Editura Didactica si Pedagogica
5. Ionescu, R. (2015). *Burse internationale de marfuri*, Editura Pro Universitaria, editia a III-a
6. \*\*\* Legea 357/2005 privind bursele de marfuri;
7. \*\*\* Legea Energiei nr. 123/2012;
8. \*\*\* Directiva Europeana 2014/24/UE;
9. \*\*\* Legea nr. 98/2016 privind achizitiile publice;
10. \*\*\* Legea nr. 99/2016 privind achizitiile sectoriale;
11. \*\*\* [www.brm.ro](http://www.brm.ro);
12. \*\*\* [www.opcom.ro](http://www.opcom.ro);
13. \*\*\* <https://www.acer-remit.eu/portal/home>;
14. \*\*\* [www.anre.ro](http://www.anre.ro);
15. \*\*\* [www.ccir.ro](http://www.ccir.ro);
16. \*\*\* [www.anap.ro](http://www.anap.ro);
17. \*\*\* [www.keler.hu](http://www.keler.hu).