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Security and energy efficiency in the current geo-political context

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Abstract. Ensuring energy security is a strategic goal of states in competing for resources and achieving their own geopolitical and geostrategic goals.

Energy security is a multidimensional concept, being closely linked to the vulnerability to interruptions in the supply of energy resources - oil, natural gas and electricity. If originally it was a concept attached to oil, today it has expanded to natural gas and electricity. Energy security has three dimensions: providing alternative sources of supply, identifying new, alternative energy routes and securing energy sources as well as transport routes.

Today, energy security is strongly asserted as a separate side of national, regional and global security. The European Union, as a major consumer of energy, continues to have a very vulnerable position in the global market, as the 27 Member States of the European Union (post-Brexit) are among the largest consumers of energy in the world, and, with the exception of Norway, all other European countries are dependent on oil imports, with Russia predominating.

Russia remains the dominant energy supplier to Central and Eastern Europe due to its proximity to deposits, infrastructure links and contractual commitments. The perpetuation of the high level of dependence of Central and Eastern European states on Eastern reserves raises a number of challenges related to Russia's instrumental treatment of deliveries for political-strategic and trade purposes, the risk of a resurgence of disputes between supplier and transit countries (such as the armed conflict with Ukraine), the risk of technical failures and the excessive insecurity in the Russian fuel sector.

The perpetuation of the high level of dependence of Central and Eastern European states on Eastern reserves raises a number of challenges related to Russia's instrumental treatment o f deliveries for political-strategic and trade purposes, the risk of a resurgence of disputes between supplier and transit countries (such as the armed conflict with Ukraine), the risk of technical failures and the excessive insecurity in the Russian fuel sector.

From this perspective, I intend to highlight the ways in which European states should approach the current geo-political context in order to ensure the continuity of their energy supply as a component of energy security.

Keywords: energy security, strategy, resources, energy, market, energy management, supply

1. Introduction

In the context of the great challenges of the beginning of the millennium, generated by the emergence of the terrorist phenomenon in connection with cross-border organized crime, the development inequalities of states, superimposed on the effects of international financial crises, energy remains a major factor in international relations and energy security, a strategic goal of states in competing for resources and achieving their own geopolitical and geostrategic goals. The beginning of the 21st century is marked by the growing dependence of the world's great powers on energy resources, and the global economy is dependent on oil as its main energy resource.

The reality of the 21st century is worrying: the exacerbation of natural disasters, the depletion of energy resources, the depletion of water resources, food, global warming, are phenomena that have the effect of threatening global security. Poor economic conditions, the "collapse" of some states, due to bad governance, the proliferation and spread of ethnic and religious conflicts, are a reality of the current security environment. The realities of today's age have shown that big consumers have come to understand the need to abandon the utopia of total energy independence and accept energy interdependence. This objective will be achieved by stimulating investments to increase energy

efficiency starting with energy resources, production, transport and distribution and last but not least, in rationalizing consumption, by promoting and using liquid biofuels, biogas and geothermal energy.

For Romania, reducing the negative impact of the energy sector on the environment, by using "clean technologies", is a priority. The objective of raising the level of competitiveness obliges to: “continue the development and improvement of the mechanisms of the competitive markets for electricity, natural gas and energy services; expanding the activity of the wholesale electricity market operator at regional level; active participation in the completion of the regional energy market (in South East Europe) and the European single market; liberalization, under technically controlled conditions of food security, of energy transit and ensuring permanent and non-discriminatory access to international transport networks and interconnections (increasing interconnection capacity); continue the process of restructuring, increasing profitability and privatization in the energy sector. "Climate change is one of the greatest challenges facing humanity, and human activity is irrevocably influencing it. As Alvin and Heidi Teoffler put it," 90% of the world's climate change is due to actions human beings”.

Energy security is a multidimensional concept, being closely linked to the vulnerability to interruptions in the supply of energy resources - oil, natural gas, coal and electricity. If originally it was a concept attached to oil, today it has extended to natural gas, electricity, starting with supply, production, transportation, distribution, supply and, last but not least, consumption. Energy security has three dimensions: providing alternative sources of supply, identifying new, alternative energy routes and securing energy sources as well as transport routes.

Today, energy security is strongly asserted as a separate side of national, regional and global security. The European Union, as a major consumer of energy, continues to have a very vulnerable position in the global market.

European energy policy has been constantly adapted to the new geopolitical, geoeconomic and geostrategic realities in order to supply energy at affordable prices, promote energy efficiency and protect the environment. At the same time, the interests of the Member States in the field of energy and the delay in the implementation of European strategies and action plans undermine the process of ensuring sustainable, competitive and secure energy.

The geopolitical situation of South-Eastern Europe, in the Danube-Pontic area, is in a rapid and continuous change, generating a paradox: on the one hand there are political and economic integration processes, and on the other hand there are trends of fragmentation through secessionist movements of separation, of rupture, a struggle that takes on multiple forms of association or federalization.

The main objective of the paper is to identify and analyze methods that, significantly improved, ensure the normal operation, in cases of force majeure, of the national energy system (oil, gas, coal and electricity), a vital element for security and national and international security.

We also set out to analyze the current and ever-changing geopolitical situation of the Pontic space, mainly due to the military events by which Russia invaded Ukraine, abusively and illegally annexed the Crimean Peninsula, these events taking place at a relatively short distance. from the borders of Romania.

The type of research used in this paper is descriptive, in order to document and understand the phenomena, and as research methods were used observation, document analysis and content analysis. The research methodology was done by reading numerous written sources, but also by researching / analyzing many web pages, to find information from several sources, thus using descriptive research.

2. Directions for action and strategies to be implemented to ensure the European Union's energy security

The concept of "energy security" is deeply linked to the concept of "state security". Both theoretical and practical concepts indicate that geopolitical strategy and geo-economic status are the "fundamental key" to the development of state energy security. To achieve this goal, national strategies need to be harmonized so that the group becomes a stable regional energy power that ensures the implementation of national strategies according to the specifics of each state.

The European Union has a special interest in energy security: it is well known that the 27 Member States of the European Union (post-Brexit) are among the largest consumers of energy in the world. With the exception of Norway, all other European countries are dependent on hydrocarbon imports, with Russia predominating.

The European Union's main interests are both climate change and Europe's security of energy supply, Europe's economy and the prosperity of its citizens. Security of energy supply in geopolitical terms is a major challenge and objective of the European Union, in this sense the revision of energy policy has led to the development of a European Energy Treaty Community, a new rapid reaction mechanism in situations of energy crisis, starting points for new approaches to energy security issues.

The main pillars of the Energy Union implementation strategy are:

• increasing energy security, solidarity and trust;
• full integration of the European energy market;
• reducing consumption by applying energy efficiency policies;
• de-carbonization of the economy;
• promoting innovation and competitiveness.

The general objective of the energy sector strategy is to meet the energy needs both now and in the medium and long term, at the lowest possible price, adequate to a modern market economy and a civilized standard of living, in conditions of quality, safety. in food, respecting the principles of sustainable development.

Figure 1. The structure of the global energy mix by 2030

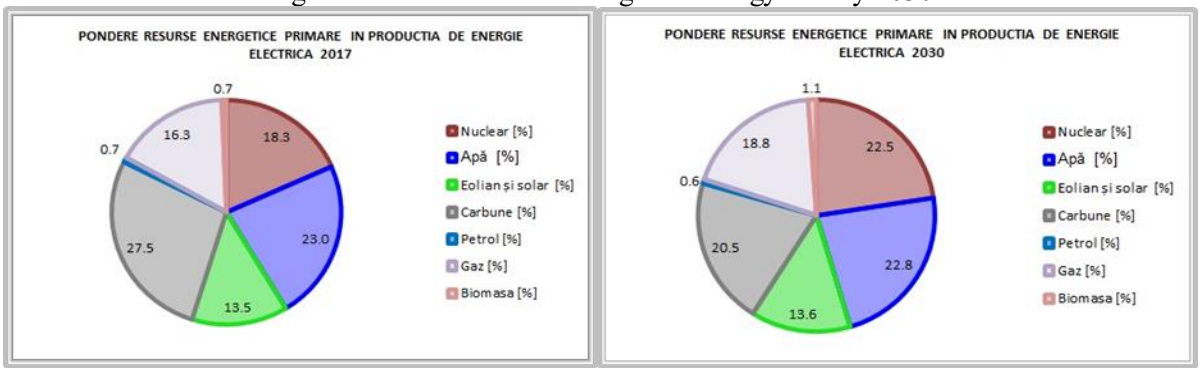
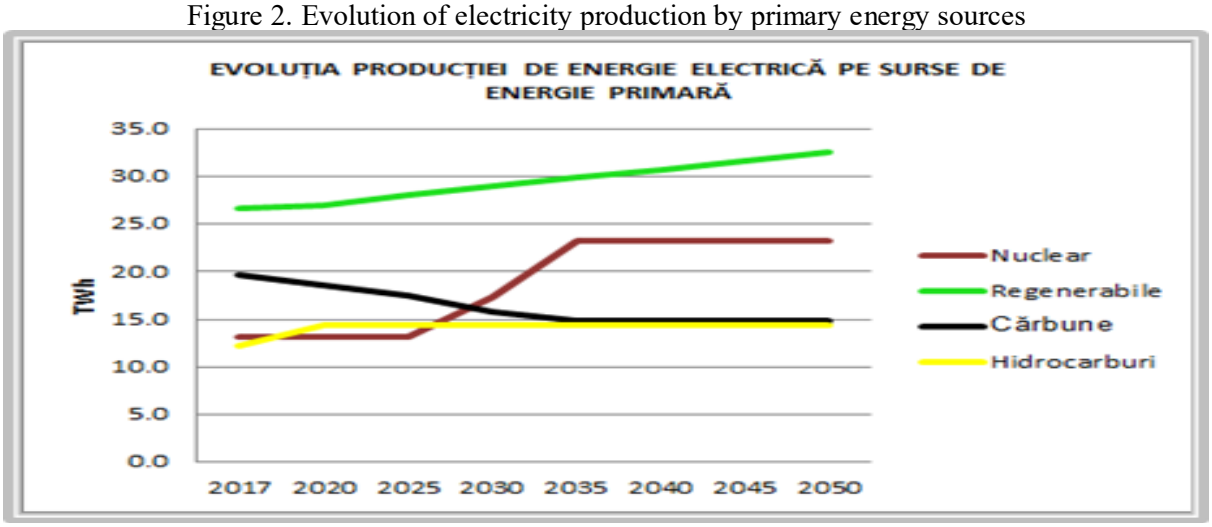


Figure 2. Evolution of electricity production by primary energy sources



3. The international context

3.1 The evolution and implications of the dependence of Central and Eastern European states on Russian energy reserves

Russia remains the dominant energy supplier to Central and Eastern Europe due to its proximity to deposits, infrastructure links and contractual commitments. The development of the LNG (liquefied natural gas) market and the launch of new transit corridors (Nabucco West, Baltic Pipeline) could reduce the degree of dependence, although at the same time it would that deliveries from the east be reduced or stopped.

The perpetuation of the high level of dependence of Central and Eastern European states on Eastern reserves will raise a number of challenges related to Russia's instrumental treatment of deliveries for political-strategic and trade purposes, the risk of a resurgence of disputes between supplier and transit countries (as in the case of the armed conflict with Ukraine), the risk of technical failures and the excessive insecurity in the Russian fuel sector.

3.1.1. EU-Russia energy interdependence. The concept of interdependence argues that the energy links between states in geographical proximity, intensify the degree of security between the actors included in this regional complex. The central idea developed in the Regional Security Complex Theory (RSCT) is a theory of regional security and the fact is that since most threats spread more easily over short distances than long ones, security interdependence is normally concentrated in complex groups, security at the regional level. Energy interdependence between Russia and the European Union can be described as asymmetric, with Russia being much more dependent on the European Union's energy market than the European Union is on Russia's energy supply. As a result, the European Union's vulnerabilities to Russia (in the sense that there could be a disruption of imports of crude oil or gas from Russia) are relatively low, as the European Union is able to replace its energy supply from other sources (nuclear, renewable energy, LNG) or from other suppliers (by increasing gas imports from Norway and North Africa or by increasing Libyan or Saudi oil imports).

3.1.2. Ukraine-Russia relations and implications for European energy security. Ukraine has a strategic position in the Wider Black Sea Area and in relation to Central Europe. The strategic value of this position is determined by political, military, economic, etc. landmarks. A special relationship can be established between the strategic value of Ukraine in the Eastern and Central European context and the economic and energy security of the continent. The economic and political value of "classical" and "alternative" energy routes to the European Union once again highlights the importance of the Ukrainian state in the international arena.

Reporting developments in Ukraine to the issue of energy routes can be approached on multiple levels. There is an economic dimension to these relations and an equally clear political and strategic dimension. These relations involve the policies of national and multinational companies, as well as sovereign governments, parliaments, international organizations, such as the UN, the IMF, the EU, NATO, etc. From an economic point of view, Ukraine has great potential for development, including a market with growth opportunities above the average of the Wider Black Sea Area. Ukraine also behaves as a major consumer of energy (hydrocarbons) and as the main transit country for natural gas pipelines from the Russian Federation to Central Europe (European Union), thus out of a total of about 150 billion m^3 of imported natural gas of the European Union, 80% transit through Ukraine, which allows it to "filter" Russian land gas exports for a long time to come. Under this circumstances, there is an interdependence, in the sense that the route of the hydrocarbon pipelines: Drujba, Brotherhood and Soyuz that transit the country, bring substantial revenues to the state and at the same time Russia's export earnings to the European Union depend on the proper functioning of Ukrainian pipelines. Ukraine's oil imports from Central Asia, on the other hand, pass through Russian-controlled Russian pipelines.

3.1.3. Crimea. The map of the historic trade route shows the connection of Uppsala to Constantinople via the city of Kherson. The most important centers of "Kiev Russia", Kyiv, Novgorod and Ladoga, appeared along this route. In the Black Sea, Crimean ports offer quick access to the Eastern Mediterranean, the Balkans and the Middle East.

The Dnieper is a major waterway and transport that crosses the European continent from north to south and connects the Black Sea to the Baltic Sea, of strategic, historical importance. The Black Sea serves as the economic artery connecting the Caucasus region with the Caspian Sea to Central and Eastern Europe.

At 200 nautical miles from the peninsula's shoreline are about 45 trillion cubic meters of gas reserves. The hydrocarbons in the Black Sea plateau could have a yield of about 1.5 billion m^3 / year. Crimea also has several natural gas fields, both onshore and offshore, which began to be drilled by Western oil and gas companies before annexation. The inland fields are located in Ciornomorske and Dzhankoy, while the offshore fields are located on the west coast in the Black Sea and on the northeast coast in the Sea of Azov. The Republic also owns two oil fields: an onshore, Serebryankse oil field in Rozdolne and an offshore, Subbotina oil field in the Black Sea.

3.1.4. Challenges and main solutions for Romania in order to meet the targets assumed as a member state of the European Union. In accordance with European energy policies, Romania's priorities in this field are: competitiveness, ensuring and diversifying energy suppliers, environmental protection, ensuring investments to increase production and development capacities. Gheorghe I. Brătianu, a great Romanian historian and politician, said that "Through the advanced maritime bastion represented by the Black Sea, there is obviously a dominant position throughout the maritime complex here. So whoever has Crimea can rule the Black Sea. " His claims are supported by the military aggressions of the Russian Federation, which through actions specific to the "cold war", with techniques applied by modern warfare, occupied by military force the region known in antiquity as the "Cimmerian Bosphorus". The Autonomous Republic of Crimea, together with the city of Sevastopol, declared their independence from Ukraine and acceded to Russia by signing the "Accession Treaty" on March 21, 2014.

Romania can become an important connecting point in the Balkan-Caucasian-Pontic area for the establishment of economic routes regarding in particular raw materials, energy resources and infrastructure for their transport, but also a factor generating political stability.

3.1.5. Problematic aspects in Romania's foreign relations. From Romania's point of view, the following issues have top priority:

• European integration of the Republic of Moldova, support for the Romanian identity of Moldovans and relations with Romanian minorities in Ukraine, Poland, Hungary, Bulgaria and Serbia;
• resolving "frozen" conflicts;
• energy security;
• At the same time, Romania has a large community of ethnic Hungarians who aspire to self-determination.

Hungary's attitude towards this minority is analogous to Romania's attitude towards its own ethnic minorities abroad.

3.1.6. Territorial issues with Ukraine. The implicit territorial problems between Romania and Ukraine arose almost immediately after the collapse of the USSR and the adoption by the Romanian Parliament of the declaration on the consequences of the Molotov-Ribbentrop Pact. Although Romania has not officially submitted territorial claims to Ukraine (except for ownership of the Black Sea plateau), some actions involve territorial claims affecting several areas: Ukraine's economic activity in the Danube Delta is based on its desire to redirect to it. a part of the flow of goods itself, through the Chilia Arm, which passes from Western Europe through the Romanian part of the Danube Delta along the Sulina and Sfântu Gheorghe Arms. Thus, the construction of a navigable canal by Ukraine in the Chilia Arm Basin is considered by it to be an effective tool for economic development and strengthening of sovereignty over border areas.

The canal is part of the Rhine-Danube-Black Sea Corridor, the 7th Great International Transport Corridor, with a total length of 2,415 km and a transit potential of about 20 million tons of cargo annually. Territorial contradictions between Romania and Ukraine are manifested by the Romanian

side's attempts to move the international border behind Maikan Island, even though, according to international treaties, this island is currently part of Ukraine.

On September 16, 2004, Romania submitted a memorandum to the International Court of Justice for the delimitation of the continental shelf in the area. The International Court of Justice, by "Decision no. 2009/9, from 3 feb. 2009, granted 79.34% of the disputed area to Romania, respectively 9,700 km² with an average depth of over 50 m, and to Ukraine 20.26% of the disputed area, namely 2,300 km² with an average depth of less than 50 m, including all territorial waters of Snake Island, including near Sulina".

Given the geopolitical concepts of the Black Sea region, Crimea is one of the most important anchorages. Therefore, based on the Russian Black Sea Fleet and other troops present, Crimea provides control over the entire Northwest Black Sea Region.

3.1.7. Romania, the Republic of Moldova and the Transnistrian conflict. From the point of view of energy security, in the current geopolitical context, the construction of the Romanian-Moldovan Gas Pipeline Iași-Ungheni was extremely important for the Republic of Moldova, whose festive inauguration took place on 27 August 2014 and which aims to reduce Moldova's dependence on Russian gas. The intention of the Moldovan authorities is to extend the Iași-Ungheni gas pipeline to Chișinau, stating that "R. Moldova intends to draw on Lithuania's experience in diversifying energy resources and ensuring energy security. " On the Transnistrian issue, Moldova adheres to the principle of territorial integrity and advocates the elimination of Russian troops from Transnistria.

The position of the Russian Federation is very concise, characterized by the words of General Lebed A. (2013), the former commander of the 14th Army: "When Russia loses Transnistria, it will lose its influence in the region." Judging by Russia's recent actions with regard to Ukraine - with possible influence, if not extension, at the level of the Republic of Moldova and Transnistria - the main interest of the significant geopolitical actor is to maintain the independence, neutrality and demilitarization of Ukraine and Moldova, to ensure its physical distance from NATO and, implicitly, to maintain its former Soviet sphere of influence. That is why Russia is willing to accept the territorial integrity of the Republic of Moldova and the reunification of Transnistria with a special status of autonomy. Similar to the contemporary position adopted towards Ukraine in relation to the separatist regions of Donetsk and Luhansk.

3.2. Global developments and challenges in the energy sector

Energy has become a strategic factor in global politics, a vital component and a cost factor for the economic development and progress of society as a whole, generating a number of major concerns worldwide.

In the case of limiting primary energy resources, in order to achieve sustainability in this area, it is necessary for energy to be produced, supplied and consumed in a more efficient way than before. If no changes are made to energy production, transportation and consumption, humanity could face a major energy crisis in the coming decades.

Energy policy must adopt the concept of sustainable development and address the following important issues: consumer access to affordable and stable energy sources, sustainable development of energy production, transport and consumption, security of energy supply and reduction of gas emissions. with greenhouse effect.

If current energy laws and policies remain unchanged over the period to 2035, global energy demand will increase by almost 50%. Countries outside the Organization for Economic Co-operation and Development (non-OECD countries) will have the largest share in increasing energy consumption by 2035, by 84%, compared to only 14% for OECD countries.

The reorientation of the energy policy of countries that are net energy importers, in the sense of increasing efforts to improve energy efficiency and the use of renewable energy sources is absolutely necessary. The evolution of the energy sector will have to take into account all energy sources, from

fossil fuels (crude oil, natural gas and coal) to nuclear and renewable energy (solar, wind, geothermal, hydroelectric, etc.) so as to build a economy based on low energy consumption.

The security of energy supply is, however, marked by the sign of relativity and volatility in the face of the escalation of established geostrategic balances, by moving from the phase of latent to manifest conflict, a situation in which interest in the causes of climate change falls into at least a temporary derision, especially in the face of the interests promoted in the foreign and security policies of the states.

A profile report by HSBC states that mankind has had oil reserves for up to 49 years. Even harsher predictions come from the US Atomic Energy Agency and the International Energy Agency, which have warned of an oil crisis in the coming decades. This will be due to the gradual depletion of large oil fields and the increase in access to such resources.

The movements in the black gold market have made Erste Group appreciate the very delicate situation of the oil-dependent countries, which overlapping the economic crisis makes the price of oil very unstable and one of the aggravating factors. of the crisis.

The IMF also estimates that oil will be increasingly difficult to find, rising in price, and then the economies of all emerging countries will suffer or be close to collapse.

The European Commission considers that by 2050 alternative fuels have the potential to gradually replace fossil energy resources; To this end, the European Union must develop oil-free and CO_2-free energy sources by 2050. The production of biofuels is seen by Western countries as a way to get closer to the targets for renewable energy and security of energy supply.

In conclusion, due to the disappearance of primary energy resources, such as coal, oil and natural gas, it will be possible to cover the increase in primary energy demand by increasing the use of renewable sources and the success of efficiency measures. energetic.

3.3. European Union energy policy

An important direction of EU energy policy is the management of oil resources. The oil reserves of the EU member states are very limited, which explains the concern for the supply of large quantities of hydrocarbons in the areas of the Middle East, Central Asia, the Caspian Sea. EU resources are limited to oil and gas reserves in the North Sea, the Netherlands, Poland and Romania.

Oil supply is a component of energy security. The definition of energy security can be expressed as "the ability to ensure a constant supply of energy resources at a predictable level of price, so as to ensure the sustainable development of the economy". Factors influencing this supply are infrastructure development, political conflicts, natural disasters, terrorism and environmental protection.

EU member states import crude oil from Russia, Norway, Iraq, Saudi Arabia and Kazakhstan.

By far, the EU's largest oil supplier is Russia, with 32% of total EU crude oil imports, followed by Norway with 12%, Iraq with 8%, Saudi Arabia with 8% and Kazakhstan with 7%. Other major EU oil suppliers are Nigeria, Azerbaijan, the United Kingdom, Iran, Algeria, Mexico, Angola and Libya.

The area of interest for Europe is represented by the Caspian Sea area, the oil supply being achieved through a network of main pipelines.

In addition to the Atyrau (Kazakhstan) -Samara (Russia) pipeline (1), in operation before 1997, transport routes from Baku (Azerbaijan) to the Black Sea ports of Supsa (Georgia) were put into operation after 1999 (2) and Novorosiisk (Russia) (3).

Proving insufficient to transport the large quantities of oil expected to be extracted from the Caspian subsoil, additional routes were built. A consortium of American, British, Dutch, Russian and Kazakh companies commissioned in 2001 the pipeline linking the Tengiz (Kazakhstan) oil fields to the port of Novorosiisk (4). The European Union has supported the construction of the Baku-Tbilisi-Ceyhan pipeline (5), which opened in 2005, linking the Caspian Sea oil area of Azerbaijan to the Mediterranean coast in order to reduce dependence on the unstable Middle East or OPEC countries Turkey.

Most of Russia's oil to Europe comes from Russia through the Drujba pipeline (10). It is over 3,000 km long and has two sections: one crossing Belarus, Poland and Germany, and the other along Belarus, Ukraine, Slovakia, the Czech Republic and Hungary.

Russia's interests are focused on the fact that EU countries represent a consistent and secure market, that they are also suppliers of high technology and the necessary equipment in the energy field, but also that they can develop a political influence.

Russia is trying to supplement oil supplies to the EU by building new pipelines or branches of the Drujba pipeline (10). Russia has begun negotiations with Germany for the Drujba branch to the Wilhelmshaven terminal, with Hungary and Croatia for the Drujba branch to the Adria pipeline at the Omisalj terminal. The German branch could reduce oil tanker traffic in the Baltic Sea, and the Croatian-Hungarian branch could reduce oil dependence in the Middle East.

Negotiations are underway between Ukraine and Poland to build an oil pipeline between Brodi and Plock, making it possible to transport crude oil between the Odessa and Gdansk (Poland) sea terminals on route (6) Odessa-Brodi-Plock-Gdansk. In addition to EU support, this project is also encouraged by the US, representing a new line for maritime exports to US markets.

Russia, with Lukoil as its main supporter, was considering building a new pipeline and terminal at the Barents Sea to supplement oil supplies on the EU's northern route.

Russia had also reached an agreement with Bulgaria and Greece on the construction of a pipeline between the Bulgarian port of Burgas and the port of Alexandroupolis (9) in Greece. Russian oil supplies to the West via the Balkans would increase, bypassing the Bosphorus Strait, which is increasingly crowded with oil tanks.

Another Balkan project, which would also start in Burgas and stop in the Albanian port of Vlore (7), aims to bring in both Russian and Caspian oil. The main disadvantages of this project are related to high investment costs and crossing an area with a higher degree of political instability.

From what exists as pipeline routes but, especially, from what is designed, it is observed that Romania, implicitly CONPET SA - the only transporter of crude oil, gasoline and ethane through pipelines - is not found in the minds of oil exporters or importers.

Table 1. The main oil routes are shown in the following table:

Nr. crt.	Ruta	Diametru conducte	Capacitate de transport	Lungime
		inch	mil. tone/an	km
1	Atyrau (Kazahstan)-Samara (Rusia)	40”	16	695
2	Baku (Azerbaidjan)-Supsa (Georgia)	21”	11	829
3	Baku (Azerbaidjan)-Novorosiisk (Rusia)	28”	5	1 397
4	Tengiz (Kazahstan)-Novorosiisk (Rusia)	40”,42”	26	1 497
5	Baku (Azerbaidjan)-Tbilisi (Georgia)-Ceyhan (Turcia)	34”,42”	24	1 728
6	Odessa (Ucraina)-Brodi (Ucraina)-Gdansk (Polonia)	36”,40”	25	1 500
7	Burgas (Bulgaria)-Vlore (Albania)	36”	38	913
8	Piteşti-Pancevo (Serbia)	20”-24”	8	390
9	Burgas (Bulgaria)-Alexandropolis (Grecia)	36”	30	322
10	Drujba-Adria (Kazahstan-Marea Adriatica)	40”-48”	15	3 200

Of major importance for Romania would have been the construction project of the pipeline (8) Constanta-Pancevo-Omisalij-Trieste (PEOP), initiators of the project being Romania, Serbia, Croatia and Italy. According to Romania, the pipeline would have transported only Caspian oil, especially from Azerbaijan, and would have been an alternative to Russian oil. Among the countries initiating the project, Romania and Serbia continued negotiations and studied a shorter Piteşti-Pancevo option, through which the transport systems of the two countries could be interconnected.

Figure 3. Map of oil pipeline routes

The purpose of the Energy Strategy is to ensure energy independence in the context of the sustainable development of Romania and the European Union. The Energy Strategy aims to "gradually reduce the dependence on primary energy resources on imports and maintain a balance between the import of resources and the use of national reserves on an economic and trade basis".

Ensuring energy security is a concern of European officials, who believe that within the European Union there are different levels of approach to it, but that can be counteracted by joint actions of states.

As a Member State of the European Union, Romania must harmonize its legislation in accordance with the European treaties, strategies and directives that become binding on all members. In this context, the European Union's efforts to harmonize its fundamental principles with the current realities of economic globalization, demographic change, climate change, the need for sustainable energy sources and new security threats have been made possible by the Treaty of Lisbon and European Union 2020 strategy. In the field of energy policy, the strategies are clear and aim to ensure "the functioning of the Union market and energy supply and to promote energy efficiency and energy saving, the development of new energy sources and renewable energies and the interconnection of energy networks".

In line with the Union's strategy for international cooperation in research and innovation, Horizon 2020 is open to the participation of researchers from around the world. Horizon 2020 is the largest research and innovation program ever undertaken by the EU. It will lead to more capital innovations, discoveries and world premieres, bringing great laboratory ideas to market.

Energy is the engine of the modern economy, but even just maintaining our living standards requires an enormous amount of energy. As the world's second largest economy, Europe is highly dependent on the rest of the world for energy supplies - energy based on fossil fuels that accelerate climate change. That is why the EU has set ambitious climate and energy targets. EU funding through Horizon 2020 will play a key role in achieving these goals (funding: € 5.931 billion).

EU research into nuclear fusion is designed to demonstrate that fusion can become a viable source of energy for large-scale commercial exploitation within a reasonable timeframe, by bringing together the efforts of all stakeholders in a single European common program. (funding: € 1.603 billion).

3.4. The regional market

Romania's Energy Strategy 2019-2030, with the perspective of 2050, takes into account the environmental constraints, the limitation of hydrocarbon resources and comes to complete the energy strategy of the European Union.

The Romanian Government is obliged to transpose, in the shortest possible time, a new legislation regarding the organization of the energy market. The same European legislation applies to interconnections between EU Member States in order to facilitate natural gas flows throughout the European Community. The EC wants to remove restrictions on trade in natural gas between Member States of the European Union, including the development of appropriate interconnection pipelines to meet demand and improve the integration of national markets. The volume of investments also depends on how the energy system will look.

Recent developments in Central and Eastern Europe indicate the development of market models based on different options, as projects are not fully convergent. There is a diversity of opinions of the main entities involved regarding the optimal solution for achieving a market integration in this region. The national markets around Romania are characterized by different degrees of maturity and liquidity levels. However, recent developments have brought with them an optimistic signal that differences of opinion and inequality in maturity and liquidity are impediments that can be overcome through collaboration given the mutual interest and obligation to implement EU directives and regulations.

Romania's oil and gas reserves are increasingly interesting for large companies around the world, many international companies and consortia are already operating or preparing to do so, the main targets being the basement, but especially the continental shelf of the Black Sea.

At the same time, some investments in the oil and gas industry have developed in the south-eastern European area. At the same time, companies in the region are diversifying their business or finding new ways to improve the production and consumption of hydrocarbons: Hunt Oil Company of Romania (HOCR), a subsidiary of Hunt Oil Company in Dallas; LLK International, wholly owned by LUKOIL, Petrotel-LukOil refinery; SOCAR, the national oil company of Azerbaijan; MOL Hungary.

4. The current situation in the energy sector in Romania

The days when Romania was an oil exporter and benefited from the advantages of this status are long gone. At present, our country provides about 60-65% of its needs from its own production, given that the large industrial consumers from the period before 1989 have greatly reduced their activity or disappeared. Hopes remain for the coming years, the exploitation of offshore drilling rigs in the area of the continental shelf awarded in the international process with Ukraine and which, if produced at the estimated level, will ensure domestic oil demand with availability even for export. However, we must not forget that this resource was transferred to OMV Petrom, which, following the acquisition of a significant number of shares, became the majority shareholder.

Through this transfer/ privatization for the benefit of a prestigious multinational company, Romania is bypassed by the current oscillations of the energy market, but not by the possible effects of long-term crises. The issue of oil prices is complex, and the immediate reactions of stock markets to the slightest malfunctions demonstrate the huge potential of oil in geopolitics. Access to resources is a key factor in determining the current international hierarchy and one of the basic criteria that motivates the leadership of global actors.

World population growth, economic development and the goals of all countries are inevitably accompanied by an increasing consumption of progressively limited energy resources. Both developed and emerging economies depend on energy resources wherever they are in the world, so losing access to resources can have devastating consequences, and geopolitics is dominated by resource strategies, especially in the case of energy.

Romania, not only as a NATO member, but also as a holder of important energy resources, should have taken with extreme seriousness and concern the way in which the issue of energy policy was approached at the NATO Summit (Brussels, July 11-12, 2018) , especially in the context of the political divergences and the contradictory discussions that take place regarding the so-called “Offshore

Law", regarding the exploitation of the gas in the Black Sea. However, talks on offshore law have been accelerating recently, especially in the context of Russia's invasion of Ukraine.

Table 2. Situation of national primary energy resources (source: ANRM)

RESURSE PURTATOARE DE ENERGIE PRIMARA	RESURSE		REZERVE		PRODUCTIE ANUALA ESTIMATA		PERIOADA DE ASIGURARE CU RESURSE SI REZERVE	
							RESURSE	REZERVE
	Milioane Tone[1)]	Milioane Tep	Milioane Tone[1)]	Milioane Tep	Milioane Tone[1)]	Milioane Tep	ANI	ANI
LIGNIT	690	124	290	52	25	4.5	28	12
HUILA	232	85	83	30	0.8	0.3	290	104
TITEI	229.2		52.6		3.4		67.4	15.5
GAZE NATURALE	726.8		153		10.5		69.2	14.6
URANIU[2)]								
[1)]exclusiv gaze naturale exprimate in Miliarde m^3								
[2)]date cu regim special disponibile in anexa clasificata								

4.1. Resources and production of natural gas, crude oil, ethane and gasoline

Romania is the only country in Eastern Europe that benefits from relatively large reserves of oil and natural gas, which has so far allowed it to maintain a relatively low degree of dependence on imports of energy resources. However, as can be seen from the table below, domestic production, which has been steadily declining over the last 20 years, does not fully meet consumption needs, so it is necessary to turn to external suppliers to meet the surplus of domestic demand. , both in terms of oil and natural gas. Moreover, with an installed capacity of almost 20 million tons of crude oil per year, Romania imports annually about 3 million tons for refining. At a current production rate and if no new sources appear, Romania's hydrocarbon reserves will be depleted in 15 years in terms of oil, respectively in 14 years in terms of natural gas.

It is expected to maintain a downward trend in annual gas consumption, following the restructuring of energy-intensive industries. As far as oil is concerned, as economic development progresses, demand increases mainly due to increased consumption in the transport sector.

At the same time, the current oil production capacity is unlikely to increase, as the investment required to develop new operations and operating costs is relatively high. Rehabilitation of existing wells is needed to improve extraction efficiency, which involves a financial effort of about $ 2.5 billion.

Natural gas is a sector of strategic importance for Romania. Natural gas is currently the most important fuel in the Romanian economy, representing 31% of primary energy. Their use takes place in almost all segments of energy consumption: electricity, heating and cooking, industrial activities (energy source or as a raw material), transport. Supporting the sustainable use of natural gas in these sectors will allow the generation of increased added value in the Romanian economy.

Natural gas reserves (ANRE source):

- geological reserves 703.21 billion m^3;
- proven reserves 101.37 billion m^3;
- probable reserves 42.31 billion m^3;
- possible reserves 10.96 billion m^3.

The average annual production of natural gas in recent years has been about 11 billion cubic meters. Given the annual decline in proven reserves of about 5% and a replacement rate of 80%, Romania's natural gas reserves will probably be depleted in 15-20 years. The discovery of new reserves requires investment in geological exploration, and their exploitation requires investment in new drilling, well operations, infrastructure, etc. But the development and production of discovered reserves requires substantial investment, the recovery of which requires a stable and predictable long-term regulatory

framework. The increase of production can be achieved by applying technologies to increase the degree of recovery in existing deposits, as well as by developing onshore projects in deep areas (over 3,000 m), respectively those in the Black Sea, especially deep water (over 1,000 m).

"Unconventional" natural gas is located in sedimentary formations of different ages, deeper in the earth's crust (shale gas, tight gas or coal gas) and in cold maritime areas (gas-hydrates). Research in this field is in its infancy in Romania, so an estimate of these resources will be possible only after more in-depth evaluations. The US Energy Intelligence Agency (IEA) estimates that Romania has considerable shale gas resources, ranking third in Europe at around 14,882 TWh. Also, the report Natural gas resources from unconventional deposits of the Romanian National Committee of the World Energy Council (CNR-CME) indicates, in addition to shale gas, the potential of tight gas and gas-hydrate resources in Romania. The assessment of such resources requires the geological research of source rocks at the level of the oil basin. This involves reanalyzing the mechanical core fund, research programs in new wells to explore this category of natural gas, and specific geological studies.

For Romania, it is necessary to change the passive, simple consumer attitude in the world energy market. Steps need to be taken at national level in the short and medium term to ensure constant flows of energy products in the future, at prices that allow for sustainable economic development. Romania's energy security depends, from a gas point of view, on the development of internal resources. However, the development of the natural gas market depends to a large extent on the quality of energy policies, regulations and institutions. These should stimulate investment in essential infrastructure: interconnectors, warehouses, development and modernization of transmission and distribution systems, etc.

We are at a time when the issue of energy globally can no longer be addressed only at the level of "observation and expectation", in the traditional line of passive policy practiced by Romania in the European context, without a strategic projection in time and space. On the other hand, energy policies and regulations must support the reduction of greenhouse gas emissions in electricity generation by imposing a cost on carbon emissions and pollution, as well as by better remunerating flexibility in the electricity market.

4.2. Evolution of consumption and production of finished petroleum products

Romania currently owns three refineries operating at a relatively high refining capacity utilization rate of over 60%: Petrobrazi Ploiesti, Petrotel Lukoil Ploiesti, Petromidia Rompetrol.

Production is primarily intended to cover the domestic market for energy petroleum products and to a lesser extent for export. The production of raw materials for the petrochemical industry is conjunctural, due to the intermittent operation of petrochemical plants, a situation generated by the situation on the international market. The Petrobrazi Ploieşti refinery processes, especially Romanian crude oil, with a low sulfur content, and the other two refineries can process crude oil with a high sulfur content, imported.

The other 7 refineries in Romania, among which we mention Arpechim Piteşti, owned by OMV Petrom and Rafo Oneşti, do not operate or have a minor activity, aimed at a niche oil products market. Rafo Onești, put up for auction for the second time in 2018, was designed as an integrated system, so that the necessary utilities are partially provided within the site of the Borzești platform (thermal energy, combustible gases - 75%, nitrogen and industrial and instrumental air), respectively partially purchased (electricity and water to complete). Refineries also have access to rail and road transport.

OMV Petrom through its Petrobrazi refinery has a 39% share of the petroleum products market, followed by Rompetrol and Lukoil, with a 20% share. The rest of the quota is held by the other operators: MOL, Agip and others.

The dynamics of domestic demand for petroleum products is influenced by economic and social factors.

The demand for crude oil will depend on improving efficiency in the refining sector or on Romania's ability to supply the energy needs for sustainable development of the country through other forms of energy resources.

4.3. The evolution of the production and transport of crude oil, ethane, gasoline

According to ANRM estimates in 2009, Romania's reserves were 68 million tons of crude oil, which will be depleted in about 15 years.

The chances of maintaining a minimal decline in domestic oil production are created in the future by:

• the interest given to the encouragement of private sector companies to take over the exploration activities and to form joint ventures with the Romanian oil companies, which would facilitate the transfer and application of modern technology in order to implement them and increase the final recovery factor;

• external financial assistance provided to the oil sector for the purchase of equipment and materials in order to solve the current technical problems in oil exploration and production.

The level of production could also be raised through accelerated exploration activities, especially in new areas and deep horizons (onshore and offshore) with the help of foreign oil companies.

The consumption of crude oil in Romania remained at a level between 9.4–10.9 million t/year, higher influences having especially the imports; the trend of domestic production continued to decline.

5. Romania's energy sector strategy

In an increasingly globalized context, Romania's energy policy is carried out within the framework of changes and evolutions that are taking place at national and European level. In this way, Romania's energy policy must be correlated with similar documents existing at European level in order to ensure the convergence of its policy with the policy of the European Union in the field.

The energy strategy will pursue the fulfillment of the main objectives of the new energy - environment policy of the European Union, objectives also assumed by Romania.

The general objectives of the energy sector are derived from the general objectives of the ministry. The aim of the energy strategy is to identify ways and measures to achieve the following objectives: energy security; competitiveness on the internal and regional market; Sustainable Development; environmental protection and limiting climate change; attracting the capital necessary for the modernization and development of the energy sector; further development of a competitive market characterized by competition, transparency and liquidity.

The section dealing with the international transport and transit of natural gas and oil shows that Romania needs to focus on main pipeline projects that are realistic in terms of sources of supply, transit assurance, construction financing and demand in the markets.

The main challenges for the pipeline system are increasing demand, replacing underperforming and expired lifespans, operational safety and integration into the regional and European market.

The concept of extended national security includes the following areas: Defense, Social Security, Food Security, Educational Security, Economic Security, Financial Security, Energy Security, Critical Infrastructure Security, Environmental Security. This approach is based on the belief that security has a role to play in ensuring respect for human rights, fundamental freedoms and human values. Romania is part of the international security environment and is inextricably linked to its evolutions. Accession to NATO and the European Union has strengthened the country's security, while developments in the security environment are becoming increasingly difficult to predict and are more versatile than before.

Starting from the well-known phrase that "energy is not expensive, but its lack", the concept of rational alternative becomes "the essence of the energy society" which establishes privileged relationships such as multisource, multityp and rationalization of consumption.

The multi-source component ensures the production and supply of electricity from several sources, some basic, some alternative, interconnected in a loop (ring) system and which can become main at any time, depending on the requirements of the system and the possibilities of operation regarding operating mode, operating conditions and consumption requirements.

The multi-type component refers to the type of production units according to the raw material used, depending on their classification on traditional or renewable sources, the resulting product being unique with identical technical parameters, respectively, electricity. The theoretical link between the two components is the rationalization of consumption. At present, society cannot function without electricity, and without energy consumers, the electricity system would be useless.

Rationalization of consumption is an extremely important objective of energy management that contributes to the achievement of several objectives: it protects the resources used for electricity production; protects the environment and climate change by reducing mono and carbon dioxide emissions; generates significant savings for final consumers, by reducing the technological losses of suppliers, which also include energy theft in the final price of the product; ensures that national and international electricity consumption targets are met.

Romania considers the energy strategy part of the defense strategy and militates for the promotion of a common energy security policy at the level of the European Union, as well as of the national energy identity, which correlates the internal policy with its obligations at European level. Energy security is, along with competitiveness and sustainable development, one of the pillars of Romania's Energy Strategy.

In the National Security Strategy of Romania, an official document, approved by the Supreme Council of National Defense (CSAT), is identified as vulnerabilities: “increased dependence on some vital resources that are difficult to access; persistent negative demographic trends; high level of social insecurity; the small proportion, fragmentation and insignificant role of the middle class; insufficient development of civil society and civic spirit; weaknesses in strategic infrastructure; the precarious state of health of the population; the dysfunctions of the education system; inadequate organization of the crisis system ”.

According to Romania's National Security Strategy (SSNR), guaranteeing national security "cannot be achieved without ensuring Romania's energy security by adapting and optimizing the structure of consumption of primary energy resources and increasing energy efficiency."

Considering the priority objectives of the development of the Romanian energy sector and the main directions of action, Romania's Energy Strategy aims to:

1. Security of supply

• maintaining a balance between the import of primary energy resources and the rational and efficient use of national reserves on an economic and commercial basis, the priority must continue to be the development of secure and competitive energy sources;
• diversification and consolidation, within the framework established at European level, of the collaboration relations with the hydrocarbon producing countries as well as with the transit ones;
• diversification of supply sources and development of safe alternative transport routes;
• participation in transcontinental hydrocarbon transport projects to Central Europe with potential route through Romania;
• concluding long-term contracts for imported natural gas in order to reduce the risks of supply interruption, in compliance with competitive rules;
• stimulating investments in the field of exploitation of natural gas and oil reserves, by encouraging the identification of new fields and capitalizing on the potential efficiently;
• highlighting new perimeters for lignite mining;
• increasing the level of adequacy of the transmission network through development and modernization according to the concept of smart grid and in compliance with the requirements of ENTSO-E;
• jointly addressing with EU Member States the issues related to the protection of critical energy infrastructure in the fight against terrorism;
• development of electricity production based on renewable energy sources.

2. Sustainable Development

• promoting the production of energy from renewable sources, so that the share of electricity produced from these sources in total gross electricity consumption is 12.7% in 2020, 13.6% in 2030 and 16.3% in 2050;

• stimulating investments to improve energy efficiency throughout the chain: sources-production-transport-distribution-consumption, given that energy remains an important growth factor for the economy and the residential sector, but also important increases for these areas;
• promoting the use of liquid biofuels, biogas and geothermal energy, according to the National Action Plan in the field of energy efficiency;
• supporting research and development and dissemination of research results applicable in the energy field;
• reducing the negative impact of the energy sector on the environment by using clean technologies.

3. Competitiveness

• further development and improvement of the mechanisms of competitive markets for electricity, natural gas, green certificates, greenhouse gas emissions certificates and energy services in accordance with the directions in the field and strengthening the role of OPCOM electricity market operator through the provisions of primary legislation and secondary;
• the products of the OPCOM electricity market operator will ensure transparent trading on successive time horizons, for base, gap and peak, as well as daily, for the next day. Both the short-term market, the next-day market and the intra-day market, have the potential to integrate with similar emerging markets in neighboring countries through implicit bidding, thus providing a credible (consistent) price and liquid cross-border trading;
• introduction of forward contracts, with standardized clauses to allow the implementation at OPCOM of continuous trading on the basis of periodic tenders for medium and long-term delivery. This measure will help the energy business environment to have reference prices, for appropriate time horizons, these references being necessary for the sustainable development of the energy sector through efficient investments;
• the introduction of the registration of all wholesale electricity transactions at OPCOM, according to the experience on other markets, will contribute to the increase of transparency and the substantiation of the decisions by the decision makers;
• encouraging the liquidity of emissions trading on the OPCOM platform;
• merging domestic coal producers with power plants in order to access financial markets and increase competitiveness in compliance with competitive rules;
• the extension of the activity of the Romanian Wholesale Electricity Market Operator - OPCOM, at regional level and the active participation in the realization of the regional energy market and of the European single market;
• modernization and development of centralized heat supply systems in large urban areas - source - transmission and distribution network - final consumer and realization of high efficiency cogeneration capacities;
• liberalization of energy transit in technical conditions of food security and ensuring permanent and non-discriminatory access to transmission networks and international interconnections;
• increasing the interconnection capacity of electricity networks to 15-20% by 2020;
• continuing the process of restructuring the lignite sector in order to increase profitability and access to the capital market.

Following the discovery of important oil fields in the Caspian Sea, which must be transported to Europe and the world on one of the main routes, two key geostrategic positions must be taken into account: the Strait System and the Bosphorus Inlet, which take navigation beyond Black Sea and Crimea. In this context, Romania must "move" quickly and intelligently and take advantage of the geostrategic position of the country located at the eastern border of the European Union.

Although Russia can be considered the "primadonna" of the Pontic geopolitical scene and the main provider of political climate in the area, Romania must take all possible measures to establish a socio-geographical border of the Black Sea region, the Pontic area comprising the Balkan states (Bulgaria, Macedonia, Serbia, Greece) and the Caucasus states (Georgia, Armenia, Azerbaijan).

6. The main directions of action of Romania's energy strategy, converging with those of the European Union's energy policy

The main directions of action of Romania's energy strategy, converging with those of the European Union's energy policy, are:

• increasing security of energy supply both in terms of fuel mix and network infrastructure;

• the choice of a balanced energy mix, which would give the energy sector competitiveness and security in supply with an emphasis on the use of internal resources, respectively coal, economically renewable hydropower potential, nuclear energy and renewable energy sources;

• efficient management and rational operation in safe conditions of depletable primary energy sources in Romania and maintaining at an acceptable level (from an economic and security point of view), the import of primary energy sources (limited / controlled dependence);

• diversification of uranium supply sources by combining the rational exploitation of national sources with the import of uranium and / or the concession of uranium deposits outside Romania in order to exploit them;

• increasing energy efficiency throughout the chain: extraction – production – transport-distribution-consumption; Romania can no longer afford to waste energy in the situation of reducing the availability and increasing the cost of energy sources; energy efficiency is the most cost-effective way to reduce emissions, improve security and competitiveness and reduce the energy service bill;

• promoting the use of renewable energy sources, in accordance with the practices of the European Union, according to the National Action Plan in the field of Energy Efficiency, developed in 2017;

• improving the competitiveness of the electricity and natural gas markets, correlating them and actively participating in the formation of the internal energy market of the European Union and in the development of cross-border exchanges taking into account the interests of Romanian consumers and Romanian companies;

• creating market conditions that stimulate greater energy savings and increase investment in low-carbon technologies; the operator of the OPCOM electricity market will ensure the short-term reference price (spot market) and the forward reference price (forward market), in liquidity conditions ensured by the concentration of transactions on the managed markets.

• transforming electricity transmission and distribution networks into smart grids and large-scale implementation of smart metering systems; they will be tools for the widespread integration of energy from renewable sources, will contribute to improving energy efficiency and will make consumers active participants in the functioning of the energy system;

• ensuring investments for the development of the energy sector, including by attracting private capital and funds provided by the EU;

• special attention will be paid to facilitating investments in those projects that contribute to the achievement of the objectives set according to EU policy, of cross-border projects on energy transmission networks; the provision of loan guarantees in the case of public-private partnerships and risk-sharing mechanisms (especially for the risks posed by new technologies) will be considered;

• increasing the capacity for innovation and technological development;

• achieving the objectives of environmental protection and reduction of greenhouse gas emissions;

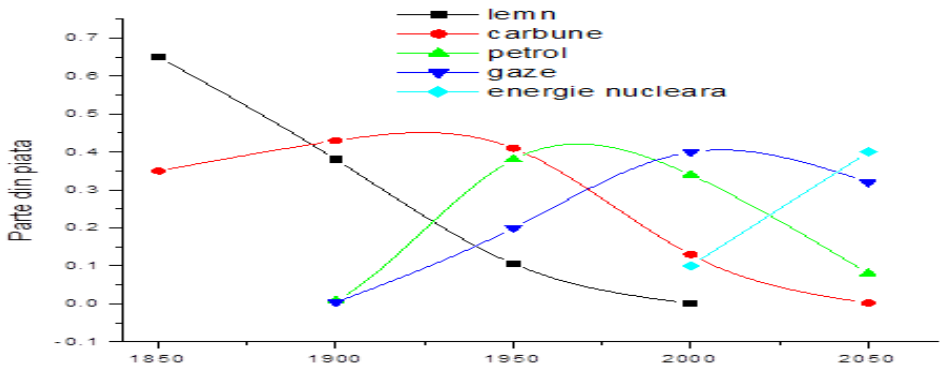
• safe implementation of radioactive waste management technologies;

• reducing the vulnerability and increasing the security of critical infrastructure in the energy sector; ex. hydroelectric power plants, nuclear power plant, energy transmission networks;

• proactive participation in the European Union's efforts to formulate an energy strategy for Europe, with the pursuit and promotion of Romania's interests;

• supporting research and development in the field of new technologies on increasing the efficiency of energy production and consumption and environmental protection, as well as specialized education.

Figure 4. Evolution of the need for energy sources



6.1. The priority objectives of the development of the Romanian energy sector

Long-term economic and social development requires a balanced energy policy that takes into account the following objectives:

• economic stability and security of supply in conditions of uncertainty of the price of energy resources on the international market, due to the continuous increase of energy demand;

• environmental protection - by introducing new technologies for energy production and consumption with low impact on the environment and for reducing climate change;

• the proper functioning of the internal markets for electricity and natural gas, a guarantee for transparent, non-discriminatory competition and for integration into the regional and European market;

• development and production of new technologies for the production and consumption of electricity and environmental protection; through this the energy sector will contribute to supporting economic development and creating new jobs;

• information and communication technologies with an important role in terms of improving efficiency throughout the production - transport - energy consumption chain. These technologies offer the potential for a structural shift to resource-efficient processes and services, energy savings, and smarter and more efficient transportation and distribution networks.

7. Conclusions

Currently, Romania is in a situation of relatively low dependence on energy imports, with only 21%, compared to other countries in the European Union where primary energy demand is provided only in proportion of 47% of domestic production, the difference coming from from imports (Source: EU Energy Trends).

The Romanian energy sector is today at a turning point, with economic, political and social values. We are the potential beneficiaries of an accumulation of opportunities that can generate sustainable social development, economic dynamics, energy security, regional cooperation and prestige at European level. The extent of the benefits will depend on the quality of the decisions we make as a political and administrative system, as economic actors and why not, as citizens.

We consider that, in the conditions of permanent challenges to the security system, it is necessary that the Romanian state institutions with attributions in the field become much more active, first of all with measures to update and complete the legislation in the above mentioned fields, then with eradication or, at least, reduction of corruption in the power system, with monitoring, implementation and control of the application of the forest regime in the national forest fund and others.

In addition, it must be borne in mind that Romania has a huge hydropower potential, not fully exploited to its full potential, which is strictly dependent on climate change, but at the same time is the cheapest method of electricity production. From the point of view of energy security, the exploitation of hydropower resources provides two major advantages: the use of a renewable resource, water, thus replacing fossil fuel resources and, most importantly, provides an efficient and inexpensive method of

storing electricity by storing at source, respectively the creation and development of accumulation lakes, which horizontally generate other economic benefits regarding the development of some agricultural activities - fish farming, irrigation or through tourism and leisure activities.

In this context, coupled with the ever-changing geopolitical situation generated by Russia's illegal annexation of Crimea since March 2014, Romania, which is still dependent on natural gas and oil imports, has only one alternative. view of energy security: pay close attention to the power system, as it can operate in optimal parameters, with traditional internal resources to which are added renewable resources, which generate a surplus of electricity available even for export.

As a result, Romania, which is independent in terms of electricity, even having resources available for export, must become a skilled and cautious player in the European energy market and not tend to an illusion fueled by the national interests of the European "Great Powers". From the point of view of transnational partnerships, even if the prospect of important natural gas resources in the Black Sea provides us with energy comfort in the future, Romania is currently excluded from the major natural gas transmission routes that will supply Europe. and the only solution at the moment is to capitalize on electricity, an area in which we have surplus production available for export.

In this sense, Romania has ongoing international partnerships in the field of electricity materialized by: import/export of electricity, applicable through national electricity networks interconnected with certain technical conditions of compatibility; foreign investments in Romania for the production of electricity in the classical system or from renewable sources, for the maintenance of the electric power system, the distribution of electricity; Romanian investments for the development of transport networks and the interconnection with other national or regional systems. While the globalization trends are manifesting more and more intensely on the principle “what is yours is also ours and what is ours you can also use, but under certain conditions”, Romania has opportunities that it must take advantage of, now, so that it becomes a factor of stability, influencing regional security, even if it also applies the principles of sustainable development.

The results of the research on the events and topics addressed have the role of conveying the following message: the current geopolitical situation in the Pontic area is favorable to Romania, which must capitalize on it with maximum intelligence and efficiency.

With this work we have contributed to the development of a more comprehensive vision of the national energy system in the current geopolitical context, when Romania is in the immediate vicinity of areas of military conflict, having the status of the last border of the European Union, when climate change is disastrous. and Europe is facing an unprecedented wave of emigrants.

It remains to be seen how the energy relations between the European Union, which is dependent on Russian gas, and the Russian Federation, which is dependent on exports to the European Union, will continue.

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